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교육학석사학위논문

The Mediating Effect of Academic Passion
on the Relationship between Self-efficacy,
and Coping and Adjustment

자기효능감과 대처, 그리고 적응의 관계에서
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Abstract

This research aimed to differentiate the two types of passion (harmonious vs. obsessive) and empirically support that not all passion leads to academic success. Specifically, the study investigated on the mediating effect of students' academic passion on the relationship between academic self-efficacy, and coping and adjustment based on the self-concordance model. It was based on a concurrent research design integrating the motivational and self-regulatory mechanisms as a predictor of academic adjustment after the transition from high school to college. A total sample of 256 undergraduate students in five universities in Korean metropolitan area participated in the study. A confirmatory factor analysis was performed to examine the adequacy of the measurement model and mediation was analyzed by comparing the fit of structural equation models.

The results showed a satisfactory fit of the research model to the data. The results also demonstrated that the total effect of academic self-efficacy on academic adjustment was positive and significant. Furthermore, a significant indirect effect provided support for the role of partial mediator of academic passion in the relationship between academic self-efficacy and avoidance coping. Academic self-efficacy showed significant direct associations with all study variables. The results showed that academic self-efficacy was positively related to harmonious passion and approach coping while negatively related to obsessive passion and avoidance coping. A significant contrasting association was found

between academic self-efficacy and each academic passion type.

The results provided support that the more harmonious passion students have, the more likely they utilize approach-oriented coping. Simultaneously, harmonious passion positively influenced academic adjustment, while obsessive passion did not. The results can be interpreted as the promotion of harmonious passion during high school has a significant positive effect on academic adjustment at college. The present findings may contribute to the understanding of how academic passion is related to academic self-efficacy, coping, and academic adjustment during the course of academic life in high school and college. This research may contribute to the literature by identifying that the ways academic passion leads to successful adjustment to the academic environment. When students struggle with demanding academic requirements, having a harmonious passion would help them adopt approach coping and increase the chance of goal achievement and satisfaction. The experience of academic success during high school not only positively influences academic adjustment to the university setting, but also expands their understanding of who they are and what they aim for in their lives.

Keywords: Academic passion, Harmonious passion, Obsessive passion, Self-efficacy, Coping strategies, Academic adjustment to college

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Introduction

Long-term educational aspirations during high school years are significant predictors of youth academic achievement through to post-secondary education (Kay, Shane, and Heckhausen, 2016; Eccles and Roeser, 2009; School, 2008). In addition to academic aspirations, it is also important to provide motivational resources to help them succeed from high school to college. According to the Organization for Economic Co-operation and Development (OECD), nearly fifty percent across of youth who begin college programs do not ultimately graduate (OECD, 2014). Moreover, many college students may be exposed to psychologically and emotionally unstable academic transition period during early adulthood. As the students are required to adopt critical thinking skills and become responsible for their own studies, this can be a meaningful yet stressful transition from the high school life.

According to the 2016 university freshman trait report released by Center for Campus Life and Culture at Seoul National University, most university freshmen reported academic stress and 8.1% of all freshmen reported they were not satisfied with their chosen major. Many students reported adjustment and motivational issues during the undergraduate years and some of them had serious issues on achieving successful adjustment to college life and academic competence. Previous research emphasized that intrinsic motivation and autonomous internalization process result in high-quality learning and

enhanced personal growth and adjustment (Deci, Vallerand, and Ryan, 1991). But less is known about the motivational factors associated with academic aspirations during the academic transition period to ensure successful college life adjustment. Individuals are more likely to set self-concordant goals and exert effort to successfully cope with their goals when they believe their goals are controlled by intrinsic motivation rather than external motivation (Shane and Heckhausen, 2013, 2016). Those who pursue with self-concordant values better attain their academic goals, which in turn achieve better adjustment for the next semester's goals (Sheldon and Houser-Marko, 2001). Thus, those who have intrinsically motivated academic goals are more deeply engaged in the pursuit of these goals, which in turn they can obtain greater success in higher education (Kay, Shane, and Heckhausen, 2016). University education system needs to provide students with appropriate knowledge and skills for effective learning and adjustment, and also investigate the factors that influence academic adjustment during college.

In recent years, an increasing amount of research in educational psychology has focused on what makes learning more fulfilling and promotes adaptive academic experience. Although several concepts such as self-determination (Deci and Ryan, 2000), achievement goals, growth mindset (Dweck, 2006), grit (Duckworth, Peterson, Matthews, and Kelly, 2007), self-efficacy (Schunck and Zimmerman, 2008), etc. have been introduced to explain

what leads to a better learning experience, 15 years of research on passion presents one important answer to this question. The dualistic model of passion (Vallerand, 2010; Vallerand et al., 2003) defines passion as a strong inclination toward a specific object, activity, concept or person that one loves, highly values, invests time and energy in on a regular basis and that is part of one's identity. Furthermore, the model proposes two distinct types of passion: Harmonious Passion (HP) and Obsessive Passion (OP) which they can be differentiated depending on how the passion has been internalized into one's identity. HP is based on autonomous internalization and represents the state of being in harmony with other aspects of the self and the life and is supposed to lead to adaptive outcomes. Individuals with predominant HP experience positive outcomes both during and after task engagement (e.g., psychological adjustment). HP is an important predictor of academic coping, self-regulation, (Gaudreau, Carraro, and Miranda, 2012) and achievement (Schellenberg and Bailis, 2016). OP results from controlled internalization and may conflict with other aspects of the self and the life and might cause less adaptive and even maladaptive outcomes. This process is originated from pressure coming from task contingency and social acceptance. Individuals with predominant OP develop obsessive and ego-invested self-structures (Deci and Ryan, 2000; Hodgins and Knee, 2002). As a result, OP causes negative consequences such as negative affect, rumination, and low psychological adjustment (Carpentier et al., 2012;

Philippe et al., 2009; Lafreniere et al., 2009).

Research on harmonious and obsessive passion was conducted in various domains such as education, studying, work, sports, dance, and music (Carbonneau, Vallerand, Fernet, and Guay, 2008; Rip, Fortin, and Vallerand, 2006; Stoeber et al., 2011; Vallerand et al., 2003, 2007, 2008). In the domain the academic performance and engagement, two studies highlighted the different effect of the passion types. One study showed that both HP and OP predicted deliberate practice, which in turn predicted increased objective performance in the sample of psychology and drama major undergraduate students (Vallerand et al., 2007). Further, HP was positively associated with subjective well-being, while OP was either unrelated to well-being (Study 1) or showed a negative correlation (Study 2). Stoeber and colleagues (2011) examined how academic passion types related to academic engagement, which is central to students' academic experience. The study viewed college students' academic engagement as the outcome of a total combination of academic thriving and integration, which was an important predictor of the students' academic adjustment. The results showed that HP for studying was associated with three aspects of academic engagement (vigor, dedication, and absorption) and was negatively associated with academic burnout. The study also supported the dualistic model of passion by showing that HP was positively related to autonomous motivation for studying.

Although passion is relatively a new construct in the field of educational psychology, it is important to investigate on the passion-related motivational mechanism associated with youth's long-term educational aspirations as it promotes meaningful and balanced life and identity development of the youth. This issue is particularly important in the context of a highly stressful and demanding educational transition from high school to college. Previous research on college life adjustment emphasized personal trait, socio-environmental and psychological health (Sung, 2010), college life adjustment and academic achievement bidirectional causal relationship. For example, Kim and Ha (2008) found that when students have positive regard toward school, their academic achievement level increased. Lee (2010) also found that students with high level of academic achievement showed a better adjustment to college. Academic adjustment during undergraduate years influenced academic achievement and fulfilled the educational purpose (Lee and Cho, 2008).

But academic achievement is a combined outcome of teaching and learning activity and has limited effect on explaining the academic process and its impact on students' subjective life adjustment. Therefore it is important to focus on the process in order to get educational implication for improving college students' academic adjustment and to investigate the relationship among academic passion and self-regulation strategies on college academic adjustment. School life adjustment is an important factor in students' overall psychological

and social adjustment and quality of life (Kwon and Kim, 2013).

Purpose of the Study

This research explored the two types of passion and aimed to empirically support that not all passion leads to academic success. Specifically, the study investigated on the mediating effect of students' academic passion in the relationship between academic self-efficacy and coping and adjustment. It is based on a concurrent research design integrating the motivational and self-regulatory mechanisms as a predictor of academic adjustment after the transition from high school to college. The motivational and self-regulatory mechanisms are based on the Self-Concordance Model proposed by Sheldon and Elliot (1999). A number of past studies on passion employed the self-concordance model as a theoretical foundation (Stoeber et al., 2011; Gaudreau et al., 2012; Schellenberg et al, 2016). The model suggested that individuals pursuing goals that are concordant with their ideals, values, and interests are likely to achieve higher goal success. In the academic setting, high goal self-concordance allows the use of adaptive coping strategies and to exert more effort toward the goal (Gaudreau, Carraro, and Miranda, 2012). Different passion types predict different use of coping strategies (Schellenberg and Bailis, 2016).

The Self-Concordance Model offers empirically supported evidence that can be applied to investigate the relationship between goal motivation and

consequential life outcomes during stressful periods. Based on conceptual understanding, coping can be conceived as one of the many mechanisms falling under the larger self-regulation strategies. Coping is a central process in human development (Amiot, Blanchard, and Gaudreau, 2008; Heckhausen et al., 2010), successful goal striving and adjustment (Ntoumanis et al., 2009), and sustainable happiness (Lyubomirsky, Sheldon, and Schkade, 2005). Therefore coping is another important self-regulatory mechanism in the “inception-to-attainment” sequence proposed by the self-concordance model (Gaudreau, et al., 2012).

The self-generated academic goals create active, purposeful, and ‘passionate’ goal-striving processes in terms of the mode of underlying goal motivation. Self-concordant goal motivation entails a sense of volition, agency, and empowerment that promotes active forms of goal engagement and success. In contrast, controlled goal motivation involves socially and self-imposed pressure likely to initiate more passive and avoidant self-regulation processes. In this line of reasoning, it is empirically supported that self-concordant motivation relates to approach coping whereas nonself-concordant goals are not deeply connected with the core self and may lead to the use of avoidance coping strategies during the during episodes of achievement-related stress such as college entrance exams. These relations have been replicated in academic (Amiot, et al., 2008), sport (Amiot et al., 2004), and romantic settings (Knee, Patrick, Vietor, Nanayakkara, and Neighbors, 2002), both concurrently and prospectively.

Moreover, it is unclear whether the two forms of passion make a unique contribution to explaining differences in students' academic coping and adjustment, whether these differences can be better explained by other motivational constructs, particularly academic self-efficacy. Self-efficacy acts on a broader level through the more effective use of metacognitive strategies, which involve planning and self-regulation. These skills are important in college life adjustment which is an independently driven academic progress. Bandura (1997) argued that self-efficacy has strong motivational effects through the process of self-generated goals. Goals provide the basis for self-regulation of effort by providing a standard for evaluating the success of goal-relevant effort and coping strategy (Bandura and Cervone, 1983).

There is a large body of research demonstrating that high self-efficacy is related to positive characteristics, processes, and outcomes, whereas low self-efficacy is related to negative characteristics, processes, and outcomes (Zimmerman, 2000). Students with high self-efficacy, compared to students with low self-efficacy, make greater use of effective cognitive strategies in learning, manage their time and learning environments effectively, and are better at monitoring and regulating their own effort. Academic self-efficacy is related to students' confidence in mastering academic subjects, which in turn predicted achievement and adjustment in school. It is important to control for academic self-efficacy when investigating the relationships between harmonious and

obsessive passion and academic coping and adjustment.

Students who perceive higher perceived self-efficacy and competence (Guay, Boggiano, and Vallerand, 2001; Williams and Deci, 1998), and are more likely to develop self-determined forms of motivation (Black and Deci, 2000; Deci and Ryan, 1987; Ryan and Stiller, 1991; Vallerand et al., 1997; Williams and Deci, 1998) and harmonious passion (Mageau et al., 2009). As previous studies have revealed, harmoniously passionate musicians at the expert level are more likely to set mastery goals and to have higher levels of subjective well-being than obsessively passionate musicians (Bonneville-Roussy et al., 2011). The extensive literature on self-efficacy and intrinsic motivation support that they are important motivational predictors during the course of the students' academic endeavor, coping and adjustment (Bouffard, Bouchard, Denoncourt, Goulet, and Couture, 2005; Pajares, 1996; Vallerand et al., 1997).

The present research aimed to investigate the mediating role of academic passion in the relationship among academic self-efficacy, coping and adjustment in college students throughout their academic life since high school. Past studies supported that harmonious passion was associated with approach-oriented coping, while obsessive passion was associated with avoidance-oriented coping. Different outcomes of academic adjustment would be made as a result of coping type.

This research has a combined retrospective-concurrent design

integrating the motivational and self-regulatory mechanisms during high school as a predictor of academic adjustment after the transition from high school to college. The study used combined retrospective-concurrent self-report questionnaires to examine how college students attribute to their current status of academic adjustment to past academic experience, specifically in terms of academic passion and goal attainment process. In research methodology, retrospective self-reports depend on autobiographical memory and they can be still feasible depending on the type of questions (Schwarz, 2007).

Autobiographical memory is mainly organized by time (high school) and relatively global themes (studying, preparing for college entrance exams) in a hierarchical network. This network retrieves past events in the time hierarchy, sequentially within important and distinct life themes that unify concurrent and sequential life events (Belli, 1998; Schwarz, 2007). Frequency questions ask participants to report on how often they used specific coping strategy during a specified reference period, “during the time of college entrance exam preparation.” They use recall-and-count strategy depending on the frequency, importance, and regularity of the behavior (Brown, 2002; Menon, 1993, 1994; Sudman et al., 1996). The participants respond based on their experience in high school while preparing for college entrance exams. Given that participants’ responses are based on their remembered experiences, retrospective reports provide feasible predictors of their behavior, even though concurrent reports

capture what really happened. From a methodological perspective, the combined retrospective-concurrent design captures what the students learned from remembered experiences by recalling on their passion types, coping, and goal satisfaction during high school, therefore, perceived outcomes of past experience influence the current evaluation of academic adjustment.

Research Questions and Hypotheses

This study explored the motivational and self-regulatory mechanisms of Korean college students' learning experience to promote adaptive college life adjustment. The study hypothesized that harmonious passion and obsessive passion are associated with approach-oriented and avoidance-oriented coping, respectively, based on the form of motivational internalization (Vallerand et al., 2003). The study, therefore, hypothesized that academic passion types would mediate the relationship among academic self-efficacy, coping and adjustment.

The research questions were as follows:

1. How is academic passion related to academic self-efficacy, coping strategies, and academic adjustment?
 - 1-1. Is harmonious passion positively related to academic self-efficacy, approach coping and academic adjustment?
 - 1-2. Is obsessive passion negatively related to academic self-efficacy, avoidance coping and academic adjustment?

2. Does academic passion mediate the relationship between self-efficacy, and coping and adjustment?

Definitions of Terminology

Harmonious Passion.

Harmonious passion (HP) is based on an autonomous internalization of the activity into a person's identity. The individuals form autonomous internalization when they freely accept the ability as an important role in their identity without any external contingencies attached to it. Autonomous internalization creates a strong motivational force to engage in the activity with volition, empowerment, and agency. Individuals are more likely to freely choose to do the activity and free from social pressure and acceptance. Harmonious passion allows individuals to engage in the activity of their passion and creates harmony with other aspects of their lives by occupying a significant but not overpowering space in their identity (Vallerand et al., 2003; Verner-Filion et al., 2014).

Obsessive Passion.

Obsessive passion (OP) results from a controlled internalization of the activity into a person's identity. Controlled internalization originates from intrapersonal and/or interpersonal pressure for mainly two reasons. The first reason is that certain contingencies are attached to the activity such as feelings of

social acceptance or self-esteem, and the second reason is the sense of excitement is derived from activity engagement becomes uncontrollable. Thus, although individuals like the activity very much, they feel pressured and forced to engage in it because internal contingencies have control over them. As activity engagement is carried out through controlled motivation, the activity eventually takes an overpowering space in the person's identity and causes conflict with other aspects of the person's life (Vallerand et al., 2003; Verner-Filion et al., 2014).

Self-Concordance.

Self-concordance refers the extent to which an individual believes the activity reflects personal values and interests, feels a sense of autonomy when pursuing a goal (Milyavskaya, Nadolny, and Koestner, 2014; Sheldon and Elliot, 1998, 1999). As this type of motivation is based on the individual's own values and interests, the goal is pursued with a greater sense of empowerment and volition. According to self-determination theory, the reasons for pursuing a goal include intrinsic motivation that perceives the goal as fun and enjoyable; integrated motivation that is aligned with the person's broader life goals; and identified motivation that represents personally meaningful and important goals. In contrast, goals that are pursued to comply with external contingencies not only reduce one's own interests and values, but also stimulate anxiety and guilt in order to gain social approval for doing the activity. Self-concordance is typically

calculated by subtracting the sum of controlled motivation scores from the sum of autonomous motivation scores for a specific activity (Milyavskaya, Nadolny, et al., 2014; Sheldon and Elliot, 1999).

Academic Coping.

Coping strategies are defined as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (Compas, Connor-Smith, Saltzman, Thomsen, and Wadsworth, 2001, p. 89). There are several distinct types of academic coping strategies. For example, approach coping strategies refer to proactive and direct responses to the stressor in order to attain positive outcomes. This type of coping is similar to the problem-focused strategies proposed by Lazarus and Folkman (1984). Avoidant coping strategies are defined as cognitive or behavioral responses to escape or disengage from the stressful situation or environment (Oláh, 1995). The examples of avoidance coping strategies include denial, distraction, substance use, and self-destructive behaviors.

Academic Self-efficacy.

Self-efficacy is based on a theoretical framework known as social cognitive theory. Social cognitive theory stresses that human achievement is influenced by the interactions among the factors of one’s behavior, thoughts, beliefs, and environmental conditions (Bandura, 1986, 1997). Learners evaluate their self-efficacy based on a number of factors: their actual performances,

vicarious experiences, feedback from others, and their physiological reactions. Studies indicate that self-efficacy beliefs influence task choice, effort, persistence, resilience, and achievement (Bandura, 1997; Schunk, 1995). While students with low academic self-efficacy doubt their learning capabilities, students with high academic self-efficacy are more likely to perform better in assessments, show more persistence when they encounter challenges (Schunk and Pajares, 2009).

College Life Adjustment.

Adjustment to college is characterized by four categories: academic, social, personal-emotional, and institutional attachment (Baker and Siryk, 1984). This research is focused on the examination of academic adjustment to college. Academic adjustment refers to the degree to which students have successfully adjusted to their academic demands as shown through their attitudes towards their academic requirements, engagement with course material, and academic efforts. Social adjustment is defined as the degree to which students have integrated themselves into the social structures of the university community. Personal– emotional adjustment is characterized by the degree to which students are exposed to stress, anxiety, and other physical reactions to the pressure coming from the college environment. Finally, institutional attachment is reflected in the degree to which students have emotionally responded to the college community.

Literature Review

The goal of this chapter was to introduce relevant research on the topic of passion, self-efficacy, the main variables in the self-concordance model, and academic adjustment to college. The literature on the dualistic model of passion focused on its conceptual background and results from the studies based on similar constructs, and empirical research on its relationship between self-efficacy, performance and psychological adjustment in various domains and ages. In the self-concordance model literature, preceded by the conceptual background, relevant findings on motivation, coping, and academic adjustment was introduced.

The Dualistic Model of Passion

Conceptualization.

The Dualistic Model of Passion (Vallerand, 2010, 2015) is a theoretical framework of passion focusing on the motivational processes that influence active and constant activity involvement. Passion is a strong inclination toward a self-defining activity so that it represents central features of one's identity. As people engage in various activities in their lives, they find preferences for some of the activities and passion allows them to have meaningful, self-defining experiences and increases understanding of themselves, others and the world. The activities that are internalized in people influence their self-perception due to

the high value and importance in their lives (Csikszentmihalyi, Rathunde, and Whalen, 1993). Passion can be directed toward an activity (e.g., playing tennis, composing music), a person (e.g., one's romantic partner, children, friends), or an object (e.g., personal collection). This dualistic model suggests that individuals may choose to adopt passionate activities with equal importance differently and result in varied consequences. Also, individuals may regulate and integrate them by distinction with other life domains.

The Dualistic Model of Passion suggests that there are two types of passion, obsessive and harmonious. The type of passion can be understood in terms of how the passionate activity is internalized. Obsessive passion is associated with having a controlled internalization of the activity into one's identity. According to self-determination theory (Deci and Ryan, 2000), controlled internalization process induces values and regulations associated with the activity to be only partially internalized in the self or if worse, to be internalized in the person's identity but completely excluding the integrating self (Deci and Ryan, 2000). Intrapersonal and/or interpersonal pressure typically lead to a controlled internalization because certain contingencies are attached to the activity such as feelings of social acceptance or self-esteem (Mageau, Carpentier, and Vallerand, 2011), or too much involvement in the activity causes excitement that leads to the loss of control. Thus people with an obsessive passion experience a strong urge to join the activity that is important and enjoyable to

them. They feel that they must engage in the passionate activity that is dear to their heart. Consequently, they take risks of experiencing conflicts and other negative affective, cognitive, and behavioral outcomes during and after the activity engagement.

The model proposes that individuals with obsessive passion display a rigid persistence toward the activity because they usually experience the difficulty of not engaging in the passionate activity when it's not appropriate to do so. In such case, ego-invested rather than integrative self-processes leads the person to eventually become fully dependent on the activity (Hodgins and Knee, 2002). This persistence in the activity may lead to a long-term benefit such as improved performance but due to the lack of flexibility, obsessive passion hinders the level optimal functioning. Furthermore, a rigid persistence may cause conflict with other aspects of the person's life, frustration, and rumination about the activity when prevented from engaging in it.

On the contrary, harmonious passion originates from an autonomous internalization of the activity of the person's identity and self. According to self-determination theory (Deci and Ryan, 2000; Ryan and Deci, 2000), this type of internalization occurs when individuals have freely accepted the activity acknowledging the importance of the activity without any contingencies attached to it. It also includes the intrinsic and integrative tendencies of the self (Deci and Ryan, 2000; Ryan and Deci, 2003) and produces a motivational force to engage

in the activity willingly and elicits a sense of volition and personal commitment to pursuing the activity.

With harmonious passion, individuals are able to freely engage in the passionate activity. The activity driven by harmonious passion occupies a significant but not overwhelming position in the person's identity and is in harmony with other aspects of the person's life. In other words, the authentic integrating self with harmonious passion (Ryan and Deci, 2000) allows the person to get involved in the passionate activity with mindfulness (Brown and Ryan, 2003) and openness leads to positive experiences (Hodgins and Knee, 2002). Consequently, people with a harmonious passion are able to fully concentrate on their tasks and experience positive outcomes both during and after the task engagement. Thus, there is minimal or no conflict between their passionate activity and the other life activities. Furthermore, they are able to adapt appropriately to the situation and focus their attention and energy on their tasks at hand when they cannot engage in the passionate activity. Finally, the person with harmonious passion is in control of the activity he or she is engaged in the present moment and can decide when to and when not to partake in the activity.

Since the concept of the duality of passion is relatively a new construct, it is useful to compare the passion construct to other constructs in the field. The first construct is zest and grit. Zest refers to a passion trait in which one feels

enjoyment and enthusiasm. Unlike to the concept of passion, this construct is posited in domain-general attitude in life, not a specific person-object relationship. Furthermore, zest is not necessarily value-driven and does not address the duality issue. The second construct is grit which is defined as high levels of persistence and passion for long-term goals (Duckworth, Peterson, Matthews, and Kelly, 2007). Grit does not focus on domain specificity and the duality issues. This means that grit only leads to one type of effect (e.g. positive performance outcomes). Wolters and Hussain (2015) examined grit and its relations with college students' self-regulated learning and academic achievement. The results demonstrated that grit and persistence of effort were adaptive predictors of self-regulatory learning including self-efficacy, motivational, time and study environment management strategies.

The concept of passion can also be compared with the concept of flow (Csikszentmihalyi, 1978). Flow is defined as immersed feeling and deep engagement into an activity. Flow is not a motivational determinant but a cognitive state. Further, the benefits of flow are mostly positive therefore flow does not address the concept of duality. Research showed that passion led to flow but flow did not necessarily lead to passion (Lavigne, Forest, and Crevier-Braud, 2012; Vallerand et al., 2003). Lee (2010) examined the relationships between academic motivation and flow experience to academic procrastination in 262 Korean undergraduate students. The results indicated that high

procrastination was related to a lack of self-determined motivation and low prevalence of flow state.

Lastly, passion differs from the concept of intrinsic and extrinsic motivation. Intrinsic motivation is similar to passion in terms of a love for the activity and that engagement itself is rewarding. However, intrinsic motivation does not necessarily address internalization in the person's identity and it is emerged from the short-term level of the person-task interaction (Koestner and Losier, 2002). Moreover, intrinsic motivation does not reflect the duality of passion. On the other hand, extrinsic motivation entails contingency to perform the activity so it provides rewards that are separate from the activity (Vallerand, 2015). Having a harmonious passion is to perform an activity for the activity itself, but with identified and integrated regulation, the goal is more inclined to obtaining rewards that are in fact separate from the activity while autonomy and enjoyment still exist.

Previous research empirically supported that passion is conceptually different from intrinsic and extrinsic motivation. For example, Belanger, Lafrenière, Vallerand, and Kruglanski (2013a) and Vallerand et al. (2003) found that even after controlling intrinsic and extrinsic motivation, passion predicted positive and negative affect and behavior. Stoeber and colleagues (2011) investigated whether autonomous and controlled motivation or the two types of passion better explained differences in students' academic engagement and

burnout. The study suggested that the dualistic model of passion explained the association between the passion types and autonomous and controlled motivation as the type of passion depended on the locus of behavioral internalization. Past research indicated that students' autonomous motivation was related to positive processes and outcomes and students' controlled motivation was related to negative processes and outcomes. Students with autonomous motivation, compared to students with controlled motivation, showed higher levels of creativity (Amabile, 1985), persistence (Vansteenkiste, Simons, Lens, Sheldon, and Deci, 2004), effective learning strategies (Grolnick and Ryan, 1987), performance (Grolnick, Ryan, and Deci, 1991), vitality (Nix, Ryan, Manly, and Deci, 1999) and subjective well-being (Levesque, Zuehlke, Stanek, and Ryan, 2004) as well as lower levels of stress (Baker, 2004; Ryan and Deci, 2000).

Empirical evidence.

The contemporary research on the dualistic model of passion concentrated on three main goals: (1) to investigate on the prevalence of people's passion for an activity, (2) to develop the Passion Scale, and (3) to design and conduct studies on the passion constructs. Vallerand and colleagues (2003) conducted research on passion and over 500 college students completed the Passion Scale responding to their passionate and valued activity which they invested time and energy. They also responded to other scales to compare with other variables. The participants reported a variety of passionate activities

ranging from traveling, volunteering, sports, to reading books. Participants reported that they spent an average of 8.5 hours per week on their specific passionate activity for the average duration of 6 years. The participants regarded their passionate activities as meaningful and valuable to their lives.

As a second goal for the initial passion research, Vallerand and colleagues (2003) focused on the development of the Passion Scale. They conducted exploratory and confirmatory factor analyses to empirically support harmonious and obsessive passion and these findings were replicated in numerous studies. The Passion Scale consisted of two subscales of six items each reflecting obsessive (e.g., “I almost have an obsessive feeling toward this activity”) and harmonious passion (e.g., “This activity is in harmony with other activities in my life”). Furthermore, the scale had reliable internal consistency and moderately high reliability on test-retest correlations over the period of 4 to 6 weeks (Rousseau, Vallerand, Ratelle, Mageau, and Provencher, 2002).

The third goal of the initial research was to conduct tests on the passion related constructs. In the study by Vallerand et al. (2003) both harmonious and obsessive passions was associated with one’s identity, and obsessive passion was strongly predicted conflicts in life than harmonious passion did. Further, harmonious passion positively predicted positive affect both during and after engagement in the passionate activity. Simultaneously, obsessive passion was positively related to negative affect, especially the moment the participants were

prevented from the activity and after activity engagement. Finally, Vallerand et al. (2003) found that only obsessive passion was associated with rigid persistence in ill-advised activities. Overall, these results provide important support for the conceptual distinction and validity of the dualistic model of passion and their different effects on various outcomes.

Passion and self-efficacy.

Previous studies examined academic self-efficacy in relation to academic motivation assessed as self-determined motivation. Many studies supported the relationship between self-efficacy and achievement including the motivational mechanisms that explain how and why self-efficacy affects the desire to achieve academic goals (Zimmerman, 2000). Self-determination theory posits how and why individuals show the difference in their academic motivation by explaining motivation as a continuum ranging from amotivation to intrinsic motivation through extrinsic motivation (Deci and Ryan, 1985; Ryan and Deci, 2000). According to the self-determination theory, the three basic needs (competence of overcoming challenges, autonomy of having choices, and being connected to others) allow self-determined and intrinsic motivation (Deci, Vallerand, Pelletier, and Ryan, 1991; Deci and Ryan, 2000). Empirical evidence supported that students who have high academic self-efficacy are more likely to experience self-determined motivation and show greater persistence. In contrast, students with no motivation have low self-determination and tend to show

academic disengagement (Vallerand, 2000; Vallerand and Bissonnette, 1992; Vallerand et al., 1992). Further, high academic self-efficacy and growth mindset on intelligence are associated with more self-determined motivation and adaptive academic coping strategies (Ommundsen, Haugen, and Lund, 2005). Individuals who undergo autonomous internalization of achievement goals tend to display greater self-regulation and self-directed behaviors leading to better learning and performance (Ryan and Deci, 2006). Previous research regarding self-efficacy and academic motivation suggested that students are motivated by different motivational cues within the same academic environment (Dweck and Leggett, 1988). Individuals who have high self-efficacy tend to have performance-approach goals. On the other hand, those who have low self-efficacy are more likely to have performance-avoidance goals (Law, Elliot, and Murayama, 2012). Similarly, studies revealed that students with performance goals tend to hold beliefs that if one has high ability, one does not need to work hard and if one has to work hard, this implies that he/she is not very gifted. In contrast, students with mastery goals are more likely to be motivated to exert effort to improve their ability (Elliott and Dweck, 1988). Consequently, studies on the relationship among academic passion, self-determined motivation and self-efficacy would be valuable for educators and researchers to seek ways to improve student motivation.

Passion and performance.

The body of literature on passion and performance suggested that there are two roads that lead to high-level performance, but the ultimate outcomes are not the same. The first road is led by harmonious passion triggered by autonomous and mastery goals that lead to deliberate practice. The second road is headed by obsessive passion predicting performance-approach goals and less productive outcomes. Many studies conducted in the area of expert performance revealed that to reach professional levels in most artistic domains requires roughly 10,000 hours of deliberate practice over a 10-year period (Ericsson and Charness, 1994; Starkes and Ericsson, 2003). Deliberate practice entails engaging in the activity with clear goals of improving on certain task components (Ericsson and Charness, 1994). Indeed, if the person engages in the activity for long hours over several years and sometimes a lifetime, the person is assumed to love the activity and have the desire to persist in the activity especially when times are rough. Thus, it is hypothesized that both harmonious and obsessive passion should involve engagement in deliberate practice that, by consequence, leads to improved performance. The studies dealing with the effect of passion on performance in various domains are introduced according to the participant ages.

Achievement goal is the main feature which determines one's performance progress over time. Such goals are closely related to keeping one deeply involved in the mastery pursuit of the activity through continuous

engagement in deliberate practice. Elliot (1997) proposed that achievement goals could function as important mediators between passion and deliberate practice. Elliot and colleagues (Elliot and Church, 1997; Elliot and Harackiewicz, 1996) have distinguished between three types of achievement goals: mastery goals (focus on the development of competence and task mastery), performance-approach goals (focus on the attainment of personal competence relative to others), and performance-avoidance goals (focus on avoiding incompetence relative to others). It is hypothesized that harmonious passion has the quality of autonomous form of regulation and is positively related to mastery goals but not to performance goals of either type. On the other hand, obsessive passion considered to be a more pressured, internally controlling form of regulation, should lead the individual to be desperate for success and evoke concerns about underachievement. In essence, obsessive passion was expected to have a positive relationship with mastery and performance-approach goals, as well as performance-avoidance goals.

Academic engagement is conceptualized as the combined outcome of academic intention and successful adjustment in the university environment. It captures students' involvement and effort devoted to their studies thus is measured by three major factors (academic orientation, academic application, and time and energy) (Stoeber et al, 2011). The study examined the relationship between harmonious and obsessive passion for studying and academic

engagement in college students controlling for the influence of autonomous and controlled motivation for studying. The results indicated that harmonious passion for studying showed positive correlations with academic engagement and negative correlations with academic burnout. Harmonious passion also showed a positive correlation with autonomous motivation for studying, thus confirming the dualistic model of passion's proposition that harmonious passion was closely linked to autonomous motivation (Vallerand et al., 2003, 2006). The findings supported that harmonious passion for studying was associated with higher academic engagement and lower academic burnout in college students, thus expanding on previous findings on passion, engagement, and burnout (Carbonneau et al., 2008; Mageau and Vallerand, 2007). Moreover, the results indicated that harmonious and obsessive passion showed unique relationships with academic engagement and burnout.

The above model was tested in a study with student athlete basketball players (Vallerand et al., 2008). Male and female student athletes completed scales assessing their passion for basketball as well as deliberate practice (Ericsson and Charness, 1994). Coaches independently rated the athletes' performance. Results from a path analysis showed that both types of passion contributed to engagement in deliberate practice in basketball resulting in improved performance. These findings were replicated in a prospective design with dramatic arts students (Vallerand et al., 2007). The study revealed that

harmonious passion toward dramatic arts was positively and significantly related to life satisfaction, while obsessive passion did not show significant association with life satisfaction. This is related to the research reported previously on passion and psychological well-being. Both types of passion positively contribute to deliberate practice and indirectly affect the level of performance. However, one with harmonious passion is able to be happy and to show superior performance simultaneously.

A study with student athletes involved in water polo and synchronized swimming was conducted over an entire season to test the above hypothesis (Vallerand et al., 2008). Early in the season, at Time 1, the participants completed the Passion Scale, the Achievement Goals Scale, and psychological well-being scales. At Time 2, in February, they completed the Deliberate Practice Scale. Finally, at the end of the season, at Time 3, coaches assessed individuals' overall performance during the season. In the results of the study, harmonious passion was found to be associated with mastery goals and led to a deliberate practice that positively predicted improved performance. On the other hand, obsessive passion was positively related to all three goals. Performance-approach goals did not predict any variables in the model. In addition, performance-avoidance goals negatively predicted performance over the 5-month period. The authors mentioned that performance-avoidance goals can lead to performance decrements over time. Again, harmonious passion was positively

associated with psychological well-being, while obsessive passion did not show a significant relationship. This study was replicated in other research involving both student and professional musicians of international stature (Bonneville-Roussy, Lavigne, and Vallerand, 2011) and students who had a passion for studying psychology as their future profession with objective exam scores in a psychology course serving as a measure of performance (Vallerand et al., 2007).

Harmonious and obsessive passions predicted positive and negative experiences both during and after activity engagement, respectively. They also predicted the level of performance attainment (Vallerand, 2010). Both harmonious and obsessive passions predicted deliberate practices and mastery-oriented goals to promote performance, but obsessive passion was associated with adopting goals oriented toward avoiding failure (Bonneville-Roussy, Lavigne, and Vallerand, 2011; Vallerand et al., 2007, 2008). Research on the relationship between the passion types and coping processes revealed that coping had an indirect role in the relationship between the passion types and the person's subjective goal attainment. Specifically, studies on the association between obsessive passion and disengagement-oriented coping found that coping style predicted decreases in subjective goal attainment. However, harmonious passion predicted increased goal attainment mediated by task-oriented coping (Schellenberg et al., 2013).

Based on the findings above, harmonious passion is positively related to

mastery-oriented goal motivation that leads to deliberate practice and high level of performance. Also, harmonious passion consists of life satisfaction and happiness. On the other hand, the obsessive passion for excellence striving contains both adaptive (i.e., mastery) and maladaptive (i.e., performance-avoidance) goals but it was negatively related to psychological well-being. While both types of passion lead to high levels of performance, obsessive passion achieved this at a psychological cost relative to harmonious passion. These findings provide implications in the field of education in terms of making guidelines for the students to take their successful paths.

Passion and psychological adjustment.

Studies on the relationship between passion and psychological well-being started from the basic hypothesis that if one is engaged in a passionate activity this should have a positive influence on one's psychological well-being. The study conducted by Rousseau and Vallerand (2003) involved senior citizens and measured their psychological well-being (e.g., life satisfaction, meaning in life, and vitality) and ill-being (anxiety and depression). Having a harmonious passion for an activity was expected to promote psychological well-being while having an obsessive passion and absence of passion promote no psychological well-being. Furthermore, it was hypothesized that harmonious passion is preventive of ill-being as experiencing positive psychological states is the antithesis of psychological ill-being. Harmonious passion mindset toward one's

favorite activity (e.g., playing sports, playing musical instruments, etc.) positively predicted psychological well-being and negatively predicted ill-being. On the contrary, obsessive passion positively predicted anxiety and depression and showed a negative relationship with life satisfaction, vitality, and meaning in life. Thus, harmonious passion promotes and serves protective functions with respect to one's psychological well-being, while obsessive passion showed less than the optimal role.

In Carbonneau et al.'s study (2008) having a harmonious passion for teaching predicted an increase in life satisfaction over a 3-month period. Teachers who had a predominant harmonious passion for their teaching were happier in their life 3 months later compared to when the study was initiated. However, no such benefits were found with obsessive passion. Similar findings were also obtained in the study with psychology major undergraduate students. Harmonious passion predicted greater happiness and satisfaction in one's life in general than having an obsessive passion (Vallerand et al., 2007, Study 2). No relationships were found for obsessive passion.

Similar findings were obtained with student athletes who were harmoniously passionate for their sport (Vallerand, Rousseau, Grouzet, Dumais, and Grenier, 2006; Vallerand et al., 2008). Furthermore, in the study by Vallerand and Houlfort (2003), the authors distinguished those who were "harmoniously passionate" from those who were "obsessively passionate" by

comparing the z-score difference on the harmonious and obsessive passion subscales. They compared the harmonious passion, obsessive passion and non-passionate groups on various psychological well-being indices. The results showed that people in the harmonious passion group showed higher levels of psychological well-being relative to those in the obsessive passion and nonpassion group. In addition, it was found that non-passionate and obsessively passionate individuals were indistinguishable.

A subsequent study (Philippe et al., 2009) replicated these findings and revealed that both obsessively passionate and non-passionate individuals experienced a slight, but significant, decrease in psychological well-being over time, while harmoniously passionate individuals experienced a significant increase in psychological well-being over the 1-year period. Overall, the studies support the findings that harmonious passion promotes psychological well-being, while obsessive passion and being non-passionate undermine it.

Other research investigated on the processes which mediate the positive effects of passion on psychological well-being. The repeated experience of positive affect during the course of engagement of the passionate activity was one mediating factor. Research has supported the adaptive role of positive affect in a variety of outcomes, including psychological well-being (Lyubomorsky, King, and Diener, 2005). Also in the study by Fredrickson (2001), it was found that the Broaden-and-Build Theory supported for an adaptive aspect of positive

emotions because they broaden people's thought-action repertoires and self and allow people to build resources over time leading to better decisions and higher levels of psychological well-being. Therefore, such cumulative experience of positive affect may facilitate psychological well-being. One of the major findings of this research is that harmonious passion positively contributes to the experience of positive affect during activity engagement, while obsessive passion does not and may even facilitate the experience of negative affect (Vallerand et al., 2003; Vallerand et al., 2006). Since passionate individuals engage in their passionate activity on an average of 8 hours per week, this means that people with harmonious passion experience somewhere around 8 hours of cumulative positive affect per week on top of other experiences in other life domains.

Harmonious passion has been reported to decrease negative affect, while obsessive passion increases negative affect and shows no significant relationship with positive affect following task engagement (Mageau and Vallerand, 2007; Philippe, Vallerand, Houliort, Lavigne, and Donahue, 2010; Vallerand et al., 2003; Vallerand et al., 2006). The results suggest that having a harmonious passion can lead people to experience cumulative and repeated experiences of positive affect that should facilitate and sustain psychological wellbeing as well as prevent from psychological ill-being. However, obsessive passion mainly promotes negative affect and psychological ill-being. Rousseau and Vallerand

(2008) tested the role of the promotion function of positive affect in the passion psychological well-being relation. At Time 1, participants who were passionate toward exercise completed the Passion Scale and measures of psychological well-being with respect to their favorite physical activity. After a few weeks, at Time 2, the participants completed situational measures of positive and negative affect. Finally, 3 weeks later at Time 3, they completed measures of psychological well-being again. Results from a structural equation modeling analysis revealed that harmonious passion positively predicted positive affect and, in turn, promoted psychological well-being from Time 1 to Time 3 progressively. On the other hand, obsessive passion was not related to positive affect but positively predicted negative affect. Also, obsessive passion did not predict psychological well-being. Finally, obsessive passion directly and negatively predicted psychological well-being. These basic findings have been replicated in the work domain, especially with teachers and administrators (Houliort, Philippe, Vallerand, and Ménard, 2014).

The role of flow is an effective mediator of the harmonious passion-psychological well-being relationship. For example, Carpentier, Mageau, and Vallerand (2012) conducted a study with undergraduate students and showed that harmonious passion for one's favorite activity positively predicted the experience of flow in both the passionate activity and their studies. Flow positively predicted psychological well-being of the participants in both

activities. These findings suggested that having a harmonious passion for a leisure activity (such as gaming or sports) could actually allow one to fully immerse in one's studies and even experience flow in them, leading to high levels of psychological well-being.

Previous research showed that obsessive passion for teaching or studying might cause burnout, while harmonious passion protected both teachers and students from burnout (Trépanier, Fernet, Austin, Forest, and Vallerand, 2014). Lavigne, Forest, and Crevier-Braud (2012) conducted a longitudinal study to investigate the mediating role of flow in the effects of passion. School administrators completed the Passion Scale for their work as well as measures of flow at work and burnout at 6 months apart. Structural equation modeling analyses revealed that harmonious passion for work positively predicted an increase in flow over time and decrease in burnout over time. Obsessive passion was not related to flow but positively predicted an increase in burnout. The findings supported that positive work experiences like flow mediated the protective effects of harmonious passion on psychological ill-being.

Studies supported that harmonious passion promoted psychological well-being and prevented ill-being, largely because it led the person to experience some positive experiences during and after the task engagement and when not physically engaging in the activity, it also allowed the person to cognitively disengage from it (Carpentier et al., 2012). Conversely, studies

showed that obsessive passion did not promote psychological well-being because it was unrelated to positive emotions and flow during task engagement. However, obsessive passion facilitated negative states of ill-being such as burnout because it entailed rigid persistence and conflicts with other aspects of one's life.

The Self-Concordance Model

Conceptualization.

Students have different levels of passion and engagement for academic achievement and they lead to the expression of lifelong enthusiasm for learning and education (Deci, Ryan, Williams, 1996; Sheldon and Biddle, 1998). Self-determination theory (SDT) focuses on analyzing the combination of the content of learning goals and the context of these learning goals are being pursued (Ryan and Deci, 2000a). Several studies examined the content of students' goal pursuits in academic settings. Researchers have argued that students who pursue their goals based on strong, salient extrinsic motivation (e.g., wealth and social acceptance) tend to be associated with poorer mental health than those who pursue goals with strongly salient intrinsic motivation (e.g., personal interest, self-growth, social purpose). Specifically, SDT proposes that intrinsic goal pursuits have a positive influence on students' psychological well-being and adjustment during academic endeavor because they promote the satisfaction of the basic psychological needs for autonomy, competence, and relatedness (Deci

and Ryan, 2000; Sheldon, Elliot, Kim, and Kasser, 2001). In contrast, the pursuit of an extrinsic goal is associated with decreased basic psychological needs and adjustment. Extrinsic motivation and goal pursuits focus on the external indicators of success and are associated with social comparisons and acceptance (Lyubomirsky and Ross, 1997) and unstable self-esteem (Kernis, Brown, and Brody, 2000), both of which are predictors of low psychological well-being and adjustment.

Previous research has shown that individuals who place extrinsic goals a higher place than intrinsic goals, they tend to experience: (a) less psychological well-being such as (e.g., vitality, self-actualization, and self-esteem); (b) more psychological ill-being, (e.g., depression, anxiety, and narcissism); (c) greater tendency of high-risk, unhealthy behaviors such as smoking; and (d) more trouble in relationships with friends and lovers (Kasser and Ryan, 2001).

Studies that investigated on the relationship between intrinsic and extrinsic goals explored the association of goal pursuit behavior and attainment with psychological well-being and adjustment outcomes (Kasser and Ryan, 2001; Ryan and Deci, 2000b). According to SDT, students with autonomous academic motivation freely engage in learning activities and assimilate new information into their learning experience (Ryan and Deci, 2000a). Past research has examined the specific determinants of the social contexts that undermine or promote autonomous motivation in learning. The external pressure such as

incentives, deadlines, strict instructions, and punishments tend to diminish autonomous motivation (Deci, Koestner, and Ryan, 1999). As a result, individuals perform less than expectation, show decreased persistence in goal pursuit behavior, and produce inefficient learning outcomes. On the other hand, environments that are supportive of task autonomy, in fact, minimize the negative effect of external incentives, threats and controlling language. Also, these environments enhance learners' autonomous motivation and facilitate deeper learning experience, test performance, and adjustment (Black and Deci, 2000).

Studies have found the contrasting effect of autonomy-supportive versus controlling social contexts in learning environment on students' well-being and adjustment to be mediated by their autonomous motivation while engaging in the academic goal pursuit behavior. Accordingly, autonomous motivation significantly predicts goal pursuit, self-regulatory behavior and learning-related outcomes (Vansteenkiste et al., 2004).

Further, studies support that autonomous motivation is associated with the academic goal setting, given that previous studies have shown a correlation between intrinsic goal content that is self-concordant with one's life values and autonomous motivation (Sheldon, Ryan, Deci, and Kasser, 2004). The SDT perspectives on goal content have been criticized that individuals' goal motivation can explain the effects of intrinsic versus extrinsic goal contents on

individuals' mental health. For example, Carver and Baird (1998) argued that the effects of intrinsic versus extrinsic goals on individuals' psychological well-being can be explained because the intrinsic goals are pursued autonomous motives whereas extrinsic goals are pursued controlled motives. However, studies conducted by Sheldon and colleagues (2004) showed that goal contents (intrinsic vs. extrinsic) and goal motives (autonomous vs. controlled) explained significant independent variance in well-being outcomes, simultaneously intrinsic goals were correlated with autonomous motivation. The results of the study can be interpreted as the intrinsic goal contents independently account for variance in well-being outcomes separated from autonomous motivation.

Furthermore, Vansteenkiste et al. (2004) showed two important findings in their research that (1) autonomous motivation significantly mediates the relation between experimentally manipulated intrinsic goal content and learning-related outcomes (2) that intrinsic goal content is a significant predictor of learning outcomes after controlling the autonomous motivation.

Self-concordance model (SCM; Sheldon, 2008; Sheldon and Elliot, 1999) offers a theoretically-driven conceptual framework for the investigation of goal motivation in the goal striving process. This model investigates the extent to which a goal is concordant with one's values, interests, and ideas relative to being pursued because of self-imposed and external pressure (Sheldon and Elliot, 1999; Sheldon and Kasser, 1998). The SCM is fundamentally based on the self-

determination theory, (Deci and Ryan, 2002), as it distinguishes personal goals reflecting intrinsic interests and values from other goals inflicted by self-imposed and socially prescribed pressure (Sheldon and Elliot, 1999).

The notion of goal self-concordance referred to the extent to which goals and strivings are pursued autonomous versus controlled reasons and “express enduring interests and values” (Sheldon and Elliot, 1999). The model suggests that individuals who pursue goals that are concordant with their interests, ideals, and values are more likely to perform better at achieving their goals. Goal self-concordance influences changes in well-being through a self-regulatory process that includes goal persistence and attainment. It shows a horizontal sequence that goal self-concordance facilitates goal attainment via self-regulation mechanisms such as the exertion of effort (Sheldon and Elliot, 1999).



Figure 1. Self-Concordance Model (Sheldon and Elliot, 1999)

Goal self-concordance is used to emphasize the contrast between controlled versus autonomous goal motivation (Downie, Koestner, Horberg, and Haga, 2006; Koestner et al., 2008; Sheldon and Elliot, 1998; Smith, Ntoumanis, and Duda, 2007). Autonomous reasons are defined as a goal being pursued based on inherent pleasure, interest, enjoyment (i.e., intrinsic motivation) and the importance of self-development and goal importance (i.e., identified motivation)

reflecting one's values (integrated motivation). Conversely, controlled reasons for pursuing a goal are characterized by self-imposed pressure, shame, guilt, contingent self-worth, social acceptance and pressure (i.e., introjected motivation) and also goals being pursued because someone else wants it or to obtain rewards or to avoid punishments associated with the outcome (i.e., external motivation). Researchers use self-concordance index by subtracting the controlled motives (i.e., introjected and extrinsic) from the autonomous motives (i.e., identified and intrinsic). Several studies supported the positive association between goal self-concordance and goal progress (Carraro and Gaudreau, 2011; Core and Cross, 2006).

The Self-Concordance Model presents an integrative ensemble of two important features of self-regulation: structure and process. Achievement goals represent the content of a goal, or the mental representation of 'what' a person is committed to accomplishing in a particular context (Elliot and Trash, 2001). In contrast, goal motivation represents the motives or reasons underlying 'why' a person pursues a specific goal at a given point in time (Trash and Hurst, 2008). In the educational domain, the focal content of mastery achievement goals is on attaining task-based competence by mastering, learning, and understanding the material as much as possible. In performance achievement goals, the focus is on attaining normative-based competence by performing better than other students. However, little is known about the various motivations or reasons for which

individuals are pursuing each of these achievement goals.

Empirical evidence.

Two quantitative studies have investigated on the levels of self-concordance under the influence of achievement goals (Vansteenkiste et al., 2010a,b). Athletes and college students participated in the research and evaluated the extent to which they pursue performance approach goals as well as the underlying reasons for which these goals were pursued. Consistent with past research results on the self-concordance model, autonomous reasons underlying the performance approach goals were significantly associated with subjective well-being and adaptive self-regulatory coping strategies. However, Vansteenkiste and colleagues (2010b) found that performance approach goals and their underlying goal motivation did not significantly interact to predict the educational outcomes.

According to a meta-analysis research of 12 studies indicated that autonomous and controlled goal motivations were not significantly correlated (Koestner et al., 2008). The study revealed that only autonomous goal motivation was significantly associated with goal progress, this highlighted the need to separate the two forms of goal motivation. Moreover, the effect of autonomous goal motivation had been replicated in other studies ranging from shorter (Downie et al., 2006) and longer-term intervals (Sheldon and Houser-Marko, 2001). The effect was also evident regardless of whether the goals were domain-

general or domain-specific (e.g., academic, social, work, leisure; Koestner et al., 2008).

Most research on goal pursuit focused on personal goals that individuals can explicitly articulate and pursue in their academic domains and other everyday lives (Emmons, 1999). This approach assumes that personal goals are influenced by socioenvironmental context and are strongly linked to broader plans or projects so that they risk challenges and show persistence for great accomplishments in their lives. Individuals' goals within a domain share an underlying motivational component because the goals are under the influence of the common perspectives and experience in that particular domain, even if the goals in another domain are pursued different reasons. A recent empirical study supported that the participants responded their motivation for three goals in two different domains. The results demonstrated that 37% of the variance in goal motivation was due to the domain (with 25% between person and 37% between goals; Milyavskaya et al., 2013). The domain, where a goal is generated, may shape the nature of the goal and consequently influence the goal pursuing behavior. Further, individuals set more self-concordant goals in domains in which they have greater satisfaction on their psychological needs for autonomy, competence, and relatedness.

The investigation on why individuals pursue a certain goal helps to define the association between goal-related activities and core structures of the

self (e.g., values, ideals, interests, and preferences). On the other hand, it is also important to find out why goal motivation activates self-regulatory processes, such as effort expenditure and coping strategies that function as significant determinants of overall goal achievement (Sheldon and Elliot, 1998). To a large extent, the SCM suggests that goal pursuing behavior divides into conceptually distinct and successive phases of goal setting and goal striving (Diefendorff and Lord, 2008). These models assume that goal self-concordance in the goal-setting phase has a less direct effect on goal success compared with self-regulation mechanisms demonstrated during the goal-striving phase. Likewise, the SCM proposes an “inception-to-attainment” sequence in which self-concordance indirectly rather than directly predicts goal progress via self-regulation mechanisms, such as the exertion of effort and coping strategies. In SCM, self-regulatory effort represents the “cognitive, affective, motivational, and behavioral components that provide the individual with the capacity to adjust his or her actions and goals to achieve desired results in light of changing environmental conditions” (Zeidner, Boekaerts, and Pintrich, 2000). Individuals may experience many possible self-regulation processes to manage their goal. The self-regulatory mechanisms also include planning (Koestner, Otis, Pelletier, and Gagnon, 2008), life management strategies (Sheldon and Elliot, 1998), coping strategies (Gaudreau, 2012).

Several researchers have provided evidence for the positive relationship

between effort and both goal self-concordance (Sheldon and Elliot, 1999) and autonomous goal motivation (Downie et al., 2006). In these studies, the effort was also positively associated with concurrent (Smith et al., 2007; Vasalampi et al., 2009) predictors of goal progress. Other self-regulation mechanisms, such as life management and coping skills are found to have a positive effect on both goal self-concordance and goal progress (Sheldon and Kasser, 1998). Also, action planning has been found to mediate the relationship between goal motivation and progress in the context of academic, leisure, and physical activity goals (Carraro and Gaudreau, 2011; Koestner et al., 2008).

Goal self-concordance plays a pivotal role in the attainment of personal goals and the promotion of well-being. A meta-analytical review revealed that individuals with higher levels of goal self-concordance are 2.20 times more likely to attain their goals compared to individuals with lower levels of goal self-concordance (Koestner, Otis, Pelletier, and Gagnon, 2008). Research also supports that more self-concordant motivation leads to greater long-term effort dedicated to achieving the goal (Sheldon and Elliot, 1999), resulting in better performance and success. Goal attainment promotes basic psychological needs consisting of the feeling of autonomy, competence, and relatedness (Sheldon and Elliot, 1999), which in turn increases psychological well-being and adjustment to the environment (Sheldon and Houser-Marko, 2001). This model has been investigated in multiple research and showed independent variance even after

controlling of goal-related self-efficacy, goal importance, goal orientation (approach- or avoidance-oriented), implementation intentions, behavior competencies (Koestner, Lekes, Powers, and Chicoine, 2002; Sheldon and Elliot, 1999).

The model needs to address why some individuals would set goals that are more or less self-concordant in the first place. Previous studies have examined the influence of personality related variables such as self-esteem, self-efficacy, locus of control, emotional stability, and proactive personality and they are found to be positively related to the extent to which people set self-concordant goals (Elliot and Sheldon, 1998; Greguras and Diefendorff, 2010; Judge, Bono, Erez, and Locke, 2005). Individuals with positive self-image and self-evaluations consider themselves as competent and capable, so they are more resistant to external pressure, and therefore they are more likely to exert grit and pursue goals for internal reasons (Judge et al., 2005).

It is still possible that individuals with generally positive self-regard sometimes set and pursue goals with controlled motivation, whereas individuals with negative self-image can nevertheless pursue goals with autonomous motives. A thorough investigation of the underlying factors that determine the nature of a specific goal will help clarify the characteristics of the goal domains and highlight the importance on the reasons why some goals are more self-concordant than others. Furthermore, the model also needs to further clarify the

concept of self-concordance in comparison to other constructs such as the duality model of passion (Vallerand et al., 2003), which distinguishes the modes of internalization (controlled versus autonomous) in terms of goal pursuing behavior.

Academic Coping Strategies

Conceptualization.

The development of adaptive coping strategies is critical to psychological adjustment during adolescence (Recklitis and Noam, 1999). Coping refers to the set of behaviors and thoughts individuals exert when they face a challenging situation that is perceived as threatening or stressful (Folkman, 1984; Folkman and Lazarus, 1985; Lazarus and Folkman, 1991). The strategies utilized in the coping process are defined as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (Compas, Connor-Smith, Saltzman, Thomsen, and Wadsworth, 2001, p. 89). Coping style predicts psychological and behavioral responses to stress (Ntoumanis et al., 2009). In many studies, researchers emphasized that the distinction between approach and avoidance coping strategies might be the most important (Carver and Connor-Smith, 2010; Connor-Smith, Compas, Wadsworth, Thomsen, and Saltzman, 2000; Connor-Smith and Flachsbart, 2007). Approach coping responds to stressful

events by using strategies such as planning, positive attribution, and reinterpretation, while avoidance coping includes strategies such as denial, blame, and negative evaluation (Carver, Scheier, and Weintraub, 1989). Research demonstrated that the effectiveness of the various coping strategies was, in fact, context-specific (Folkman and Moskowitz, 2004). This showed that effectiveness of a specific coping strategy depended on its suitability to the stressor so no individual coping strategy was effective in all situations (Lazarus and Folkman, 1984).

Coping processes were strongly influenced by individual's motivational orientations in a given situation (Lazarus and Folkman, 1991; Ntoumanis et al., 2009). Self-determination theory suggests different types of motivational orientations that may significantly influence coping processes. Motivation types in SDT are significant factors to explain the level of engagement, persistence, and success in a given activity, as well as the psychological consequences of engaging in this activity. According to SDT, behavioral regulation ranges on a continuum from controlled (e.g., external, introjected) regulation to more autonomous (e.g., identified, integrated, intrinsic) regulation (Ryan and Deci, 2000b).

Motivation influences coping strategies through the regulation of the appraisal or experience of the task (Ntoumanis et al., 2009), such motivation and stress appraisals lead to distinct coping responses. In academic settings, research

has shown that students with autonomous motivation are more likely to use approach coping strategies, such as planning (Amiot, Gaudreau, and Blanchard, 2004; Thompson and Gaudreau, 2008), because their behavior is intrinsically motivated by the self, and they experience higher self-efficacy and are capable of influencing the outcomes. Students with controlled motivation are more likely to use avoidance coping strategies, such as the deliberate use of distraction (e.g., using mobile phones, procrastination, etc.), delay in preparing an important examination (Amiot et al., 2004; Schellenberg and Ballis, 2016). Avoidance coping strategies are used because the students believe the outcomes of their behavior are determined by external influences.

In previous research on determination theory (SDT; Deci and Ryan, 1985; Ryan and Deci, 2000a) and coping perspectives (Lazarus and Folkman, 1984), the integrative conceptual framework of motivation and coping suggested by Ntoumanis, Edmunds, and Duda's (2009) explains how motivation regulations and coping combine behavioral and psychological outcomes. The results found that the integrative model is generalizable to the educational context and improves the current understanding of motivation and coping in relation to college assessment. In the following studies, the model was modified for the educational settings. The adapted model introduced three main components: (1) motivation regulation (autonomous versus controlled motivation); (2) motivation regulation and stress appraisals consequently lead

students to utilize different coping strategies to overcome the stress during examination periods; (3) the types of coping strategies (i.e., approach coping, avoidance coping) significantly influence the affective, cognitive, and academic experiences of students during the examination periods.

Devonport and Lane (2006) suggested that academic coping can influence academic performance among college students as the amount of their effort to attain their academic goal is dependent on how they cope with challenges, negative emotions, and obstacles. Previous research showed that those students who did not successfully cope with negative academic experiences and had low academic self-efficacy were less likely to be motivated than students who successfully utilized approach coping skills and had high academic self-efficacy (Schunk and Pajares, 2005; Struthers, Perry, and Menec, 2000). It is important to assess students' coping strategies to help identify factors contributing to academic struggles and success, apart from other factors that have been traditionally dealt in educational evaluations (Sullivan, 2010). Studies support that it is important to examine academic coping strategies as a way to adjust to the academic environment as stress coming from the high demands of academic achievement can negatively impact students' academic performance and motivation (Pritchard and Wilson, 2003). Further investigation on academic coping strategies will allow broader understanding on the development of academic performance and school adjustment so more students will benefit from

academic interventions in school counseling settings.

Empirical evidence.

The Self-Concordance Model establishes an empirically supported framework that is capable of investigating the relationship between goal motivation and consequential college adjustment outcomes during the examination and assessment episodes. The capacity to cope with challenges and adjust to the environment is regarded as a central part of the motivational (Heckhausen, Wrosch, and Schulz, 2010; Ntoumanis, Edmunds, and Duda, 2009) and self-regulation system (Carver and Scheier, 1998; Wrosch, Scheier, Miller, Schulz, and Carver, 2003). On a conceptual level, coping is perceived as one self-regulatory mechanism under a macro-level self-regulation umbrella. Specifically, coping is a cognitive and behavioral self-regulatory process during problem-solving and challenging circumstances (Eisenberg et al., 1997). From a theoretical perspective, coping is regarded as a central process in human development (Amiot, Blanchard, and Gaudreau, 2008; Heckhausen et al., 2010; Skinner and Zimmer-Gembeck, 2007), successful goal striving (Ntoumanis et al., 2009), and sustainable happiness (Lyubomirsky, Sheldon, and Schkade, 2005). Therefore, coping is a strong candidate for an important self-regulatory mechanism in the “inception-to-attainment” sequence proposed by the SCM.

Individuals use different coping actions in various contexts. On the one hand, they use avoidance coping when the task is not concordant with their

values, interest, and their extrinsic motivation is greater than intrinsic motivation, while behaviorally and psychologically withdrawing from the situation. On the other hand, individuals utilize approach coping strategies which reflect the self-concordant values of the task and are effective in problem-solving, resulting in cognitive and affective adjustment. This set of actions includes strategies such as effort expenditure, thought control, relaxation, logical analysis, mental imagery, and support seeking (Gaudreau, 2012). These approach coping strategies lead to more positive outcomes, promote a constructive engagement with challenges and promotes better adjustment outcomes, more organized, flexible, and constructive results (Skinner et al., 2003).

Recent research has investigated on the distinct role of the coping strategies in the goal-striving process. Studies in academic settings indicated that approach coping positively predicts goal success in association with objective and subjective criteria. By contrast, avoidance coping has been negatively related to goal success. Coping is a central mechanism to explain the learner-environment relationship in personal traits, academic goals, and motivations provide meaning to the self-regulatory action (Lazarus and Folkman, 1984). The power of self-generated and self-concordant goals create active, purposeful, and volitional goal-striving processes depending on the type of academic passion and underlying goal motivation. Autonomous goal motivation and harmonious passion encompass a sense of empowerment, purpose, and volition that promote

utilization of active goal investment which maximizes goal success and life adjustment. In contrast, controlled goal motivation and obsessive passion involve socially prescribed and self-imposed pressure and obligations that are very much likely to initiate passive and avoidant self-regulation processes and coping strategies. Goals that are being pursued based on controlled motivation are not united with the core value systems of the self (Vallerand et al., 2003). More importantly, the volitional strength, persistence, and grit coming from controlled and obsessive passions are easily diminished when faced with challenges (Sheldon and Elliot, 1999). As a result, this could lead to the utilization of avoidance coping during the episodes of college assessments.

Based on the literature, there was strong evidence that supports the self-concordant motivation promotes approach coping whereas nonself-concordant motivation leads to avoidance coping. These relations have been replicated in academic settings (Amiot, et al., 2008). Miquelon and Vallerand (2009) examined the relationship between goal motivation and coping. Although the results showed that there was a moderate correlation between autonomous goal motivation and approach coping, controlled goal motivation did not significantly correlate with avoidance coping. However, it is important to further investigate the role of passion types in the relationships among self-concordant goal motivation and coping strategies leading to successful academic adjustment outcomes in college.

Coping Strategies and Academic Adjustment at College.

Previous research demonstrated that motivation predicts the utilization of coping strategies. However, the data provide mixed evidence for the relationships in the matter of long-term academic adjustment, for example, from high school through to college. Moreover, no research to date has integrated all of these factors in a single empirical model. The model by Bonneville-Roussy et al. (2016) presents three long- and short-term academic outcomes: vocational intentions, achievement, and affect in the academic settings in college. The study emphasized that it is important to examine the students' academic adjustment because they are required to make academic decisions in reference to their previous experiences. Past research has shown that students' academic plans for a future career are a key educational outcome related to other academic consequence (e.g., academic achievement, adjustment, and dropout) (Bong, 2001; Otis, Grouzet, and Pelletier, 2005; Vallerand, Fortier, and Guay, 1997). Additionally, long-term academic and career goals during high school years are likely to predict academic and career achievement during undergraduate years through to mid-adulthood (Schoon, 2001). This sequence is particularly related to domain-specific achievement (Schoon, 2001; Smith and Naylor, 2001; Titus, 2004), and affective outcomes as a result of coping process have also been shown to be an integral part of academic adjustment (Chemers, Hu, Garcia, 2001; Gillet, Vallerand, Lafreniere, and Bureau, 2012; Zuckerman, Kieffer, and Knee,

1998).

Previous studies have found that approach and avoidance coping predict intrinsic and extrinsic motivation, respectively (Amiot et al., 2004; Moneta and Spada, 2009). Specifically, numerous studies have supported that academic motivation is linked with academic outcomes, such as achievement, persistence, and positive affect (Ryan and Deci, 2000a; Taylor et al., 2014; Vallerand et al., 1997). In terms of academic motivation, one study (Amabile, 1979) has demonstrated the effect of autonomous versus controlled motivation on assessment outcomes. In the experiment, art major students produced less creative and less skillful paintings when they were in the condition of being evaluated by their work. In another similar study (Grolnick and Ryan, 1987), students in elementary schools performed less in the processing and recall of the task when they were told that they were being measured by their ability. On the other hand, they showed better performance in conceptual learning and were more satisfied when they were told the test did not measure their ability and autonomy was given during the reading task. Generally, assessments in both high school and college are considered as a stressful and controlled regulation that requires the need for adaptive coping strategies for academic success. Especially, autonomous motivation is associated with the experience of positive affect, while controlled motivation is related to negative affect in college assessment settings (Gillet et al., 2012). A recent systematic review found that autonomous goal

motivation is positively linked to self-regulatory, approach strategies such as effort expenditure and action planning (Gaudreau, Carraro, and Miranda, 2012). Also, self-determined and self-concordant motivation has repeatedly been reported to be associated with academic persistence and future academic intentions (Lavigne, Vallerand, and Miquelon, 2007; Vallerand et al., 1997). And these outcomes should be preceded by the successful academic adjustment into college life. In sum, the accumulated literature on autonomous and controlled motivation support that self-regulatory coping mechanisms are significantly influenced by the goal motivation, therefore predict the short- and long-term outcomes of academic adjustment and assessment (Ryan and Weinstein, 2009).

Some studies examined the role of coping mediators in the relationship between self-determined motivation and academic outcomes. Research has indicated that high school students who had more autonomous motivation were more willing to stay in school and apply for college (Vallerand et al., 1997). In addition, high intention for academic persistence was predicted by higher levels of autonomous motivation and higher GPA at the end of a semester (Alivernini and Ludici, 2011). One study investigated the relationship among controlled motivation, stress appraisal during academic assessment. The results indicated that students performed worse in examinations in the condition that teachers prompted controlled motivation by reminding students about the consequences of failure, (Putwain and Remedios, 2014). Another study (Von der Embse,

Schultz, and Draughn, 2015) compared the effect of controlled versus autonomous behavior on academic achievement. The results showed that students who were in controlled behaviors condition performed worse than students who were in autonomous behavior condition. Further, stress appraisals did not mediate this relationship. This is supporting evidence that coping can be a potential mediating factor in the relationships between motivation types and academic achievement.

Coping with college academic life requires students to seriously focus on their improvement in academic abilities and engage with complex skills in order to attain the desired outcomes. In academic settings, approach coping is associated with thoughtful and strategic self-regulatory preparation, while avoidance coping is related to superficial and maladaptive approach (Moneta, Spada, and Rost, 2007). Correlational data results have indicated that approach coping strategies are linked to positive affect (Ntoumanis, Biddle, and Haddock, 1999; Rovira, Fernandez-Castro, and Edo, 2005) and psychological adjustment (Amiot, Blanchard, and Gaudreau, 2008; Aspinwall and Taylor, 1992; Gaudreau and Antl, 2008; Verner-Filion et al., 2014). Approach coping has also been associated with objective measures of achievement, such as higher GPA, as well as subjective measures, for example, higher levels of performance satisfaction (Kaiseler, Polman, and Nicholls, 2009; Nicholls, Polman and Levy 2012; Schellenberg and Bailis, 2016; Zeidner, 1995). In the sports domain, approach

coping, past performances, and firm intentions to pursue a career in a premier league were found to be a strong predictor of objective career success (van Yperen, 2009). In recent studies, approach coping strategies, but not avoidance coping strategies predicted higher achievement after one college semester (Schellenberg and Bailis, 2016). Conversely, avoidance coping predicted negative outcomes such as increased burnout and lower levels of subjective well-being (Schellenberg, Gaudreau, and Crocker, 2013; Verner-Filion et al., 2014).

Method

Participants

A total sample of 256 college students (70 males and 186 females; *M* age = 19.80 years, *SD* = 2.19 years) ranging in age from 17 to 30 years in the Korean metropolitan area participated in the study. Participants were freshman (76.2%), sophomore (10.5%), junior (8.6%), or senior students (4.7%). College students were chosen because the research focused on the effect of academic passion on the academic adjustment during the academic transitional period from the high school years through to the undergraduate years. The research was conducted in April to May 2017 which was after the mid-semester exam, so even the freshmen students were expected to be able to report on their level of academic adjustment to college. The sample used for the analyses comprised 226 participants (59 males and 167 females; *M* age = 19.60 years, *SD* = 1.98 years)

who scored over 4 points in the passion criteria.

Measures

Academic Passion.

The Passion Scale (Marsh et al., 2013; Vallerand et al., 2003) was composed of two 7-item subscales: harmonious passion (e.g., “Study is in harmony with other activities in my life”) and obsessive passion (e.g., “I cannot imagine my life without study”). Participants indicated their responses on a 1 (Do not agree at all) to 7 (Very strongly agree) scale. The Passion Scale demonstrated high levels of validity and reliability (see Vallerand et al., 2006). The psychometric properties of the full measure were as follows (e.g., in the present study the proposed two-factor solution fit the data well [$\chi^2(19) = 23.27$, $p = .23$, CFI = .99, RMSEA = .04] and all factor loadings exceeded .49 and were significant). Both subscales demonstrated acceptable internal consistency: $\alpha = .73$ and .84 for harmonious and obsessive passion, respectively.

Passion Criteria.

The passion criteria items assessed whether students are passionate or not toward a given activity. These criteria referred to the definition of passion consisting of love for the activity, activity valuation, time investment, perception as a passion for the activity. This is a diagnostic measure to identify passionate people. The mean score on the sum of the four criteria at the midpoint (4) or

above on the 7-point response scale was determined to be passionate. The criterion items were important to establish the construct validity of both the Harmonious Passion and Obsessive Passion Subscales. The coefficient alpha was .77.

Academic Self-efficacy.

A twenty-eight item questionnaire was used to measure on 5-point Likert scales the participants' agreement with statements reflecting their confidence in their ability to perform well academically (Kim and Park, 2001). Following Bandura (1997), the measure was designed to reflect a variety of specific skills relevant to academic achievement. The scale items were composed of ten items measuring the preference for challenging tasks, ten items measuring self-regulatory efficacy including self-observation, self-evaluation, and eight items measuring academic confidence. Because the intent was to predict overall college performance, the self-efficacy measure did not focus on highly specific subjects such as math, science, languages, and so on. The coefficient alpha was .87.

Academic Coping Strategies.

A 34-item of the Academic Coping Strategies Scale (Sullivan, 2010) was used to measure approach and avoidance, and social support coping strategies. Students rate on a 5-point scale ranging from 1 (not at all) to 5 (very strongly) how each item matched how they were generally managing academic problems

during high school years. CFA results provided an adequate to good model fit, χ^2 ($df = 103$) = 383.303, $p < .05$; CFI = .896, TLI = .948; RMSEA = .085. Based on the CFA data, Approach included 15 items reflecting active attempts by the students to change the problem or their psychological reactions toward the problem or to prepare the self to deal with the problem. The Avoidance factor included 11 items related to cognitive or behavioral responses to escape or disengage from the stressful situation in the academic setting without useful attempts to solve the problem. The Social Support factor included 8 items that are pertinent to seeking support from other people to manage the problem or to handle the stress coming from the problem. Only approach and avoidance coping data were used in the analysis. Alpha coefficients for the factor scores were: Approach = .91, Avoidance = .82, indicating adequate internal consistency for all factor scores.

Academic Adjustment at College.

In the Student Adaptation to College Questionnaire: SACQ developed by Baker and Siryk (1984), only academic adjustment subscale was used in the study as the research intends to investigate on the students' academic adjustment and is not relevant to other forms of college adjustments such as personal-emotional, social and institutional-attachment. Academic adjustment included 24 items related to students' academic-related life such as attending lectures, assessments, and examinations. Students rate on a 9-point scale ranging from 1

(not at all) to 9 (very strongly) how each item matched their current status of adjusting to academic demands. In the questionnaire, the translated version of SACQ was used. Alpha coefficients for the academic adjustment factor score were .86.

Data Collection

The data collection was conducted from the end of April to early May 2017. All participants provided informed consent and the study was approved by the Seoul National University Research Ethics Board before the study began. Two weeks prior to the main study, a pilot study was conducted to examine the effect of academic passion on college academic adjustment in mid-April 2017. A sample of 22 college students participated in the study. The pilot study found significant correlations among the main variables and also revealed that the passion scale did not effectively distinguish harmonious and obsessive passion constructs. This was assumed to be caused by the Korean cultural context. In Korean culture, an obsessive attitude to study is often recommended in the fierce competition throughout the whole Korean educational system (Lee, 2005). Based on the results of the pilot study, the items measuring obsessive passion was modified by highlighting the introjected and extrinsic nature of motivation.

The participants completed online surveys including demographic information and list of questionnaires. Prior to distribution of the questionnaires,

students were informed that they would be asked to respond to the measures of academic self-efficacy, academic passion, academic coping strategies, college life adjustment. All participants were informed that their responses would remain confidential.

Data Analysis

Data was exported to SPSS version 18 to investigate missing data and evaluate participant demographics. Structural equation modeling (SEM) approach was used to analyze the hypothesized model. Analyses were conducted with AMOS version 21 using maximum likelihood to manage missing data. First, a confirmatory factor analysis was performed to examine the adequacy of the measurement model. Second, mediation was analyzed by comparing the fit of structural equation models. The evidence of model fit was obtained through multiple sources: the MLR chi-square statistic (MLR χ^2), root mean square error of approximation (RMSEA), the Tucker-Lewis index (TLI), and comparative fit index (CFI). Values of less than .05 for the RMSEA statistic are typically interpreted as representing a relatively good model fit, while values less than .08 are interpreted as an indication of acceptable model fit. Also, 90% confidence interval should not exceed .10 for acceptable model fit (Kline, 2005). Values greater than .90 and .95 for the TLI and CFI are typically interpreted as representing acceptable and excellent fit, respectively (Hu and Bentler, 1999). A

nonsignificant MLR χ^2 indicates an acceptable model, but this statistic is likely to be significant in large samples.

Table 1

Standardized Factor Loadings and Parcel Items

Latent factor	Indicator	Standardized loading	Parcel items
Harmonious Passion	Parcel 1	.713	5, 9
	Parcel 2	.727	7, 11
	Parcel 3	.727	3, 1
Obsessive Passion	Parcel 1	.492	8, 10
	Parcel 2	.707	12, 2
	Parcel 3	.570	4, 6
Approach Coping	Parcel 1	.738	12, 30, 23, 25
	Parcel 2	.852	18, 13, 5, 26
	Parcel 3	.820	7, 14, 6, 13
	Parcel 4	.796	29, 15, 17
Avoidance Coping	Parcel 1	.656	24, 9, 28, 19
	Parcel 2	.698	34, 10, 16
	Parcel 3	.719	27, 2, 21
Academic Adjustment	Parcel 1	.687	2, 16, 19, 12, 10, 17
	Parcel 2	.736	5, 18, 11, 14, 13, 20
	Parcel 3	.730	8, 4, 6, 3, 21, 22,
	Parcel 4	.775	9, 15, 23, 1, 7, 24,
Academic Self-efficacy	Parcel 1	.684	7, 13, 3, 1
	Parcel 2	.777	10, 11, 2, 5
	Parcel 3	.744	9, 12, 6, 4

Note. All loading $ps < .001$

A parceling approach was used to create indicators of passion types, coping responses, and academic adjustment, given that these dimensions were assessed with many items. Parceling can be an effective tool in SEM that has advantages including fewer parameter estimates, lower indicator-to-sample ratios,

and reduced sources of sampling error (Little, Rhemtulla, Gibson, and Schoemann, 2013). Indicators of harmonious and obsessive passion latent variables were created using a balancing approach with the goal of creating three indicators per variable (Little et al., 2013). For harmonious and obsessive passion, indicators were parceled by averaging the item with the highest loading with the item lowest loading, the item with the second highest loading with the item with the second lowest loading and the item with the third highest loading with the item with the third lowest loading. The same approach was used to create item parcels for approach, avoidance, and social support coping latent variables and also academic adjustment variables. The items comprising each parcel and the loadings of each indicator variable are outlined in Table 1.

Results

Descriptive Statistics and Correlations

Prior to the model analysis, the descriptive statistics were computed to check normality of the data. The bivariate correlations among all study variables were examined including academic passion, academic self-efficacy, coping strategies, and academic adjustment (see Table 2). Harmonious passion and obsessive passion were negatively correlated but both of them showed a positive correlation with the passion criteria. Only harmonious passion showed positive correlations with academic self- efficacy, approach academic coping strategies,

Table 2

Academic passion, coping, adjustment, and self-efficacy: correlations and descriptive statistics

Variable	1	2	3	4	5	6
1. Harmonious Passion						
2. Obsessive Passion	-.240**					
3. Approach Coping	.273**	-.043				
4. Avoidance Coping	-.241**	.273**	-.484**			
5. Academic Self-efficacy	.331**	-.223**	.386**	-.334**		
6. Academic Adjustment	.324**	-.237**	.293**	-.210**	.312**	
<i>M</i>	4.295	4.541	3.728	2.434	3.4174	5.647
<i>SD</i>	1.186	1.187	.613	.585	.620	1.250
Cronbach's alpha	.839	.777	.903	.817	.816	.852

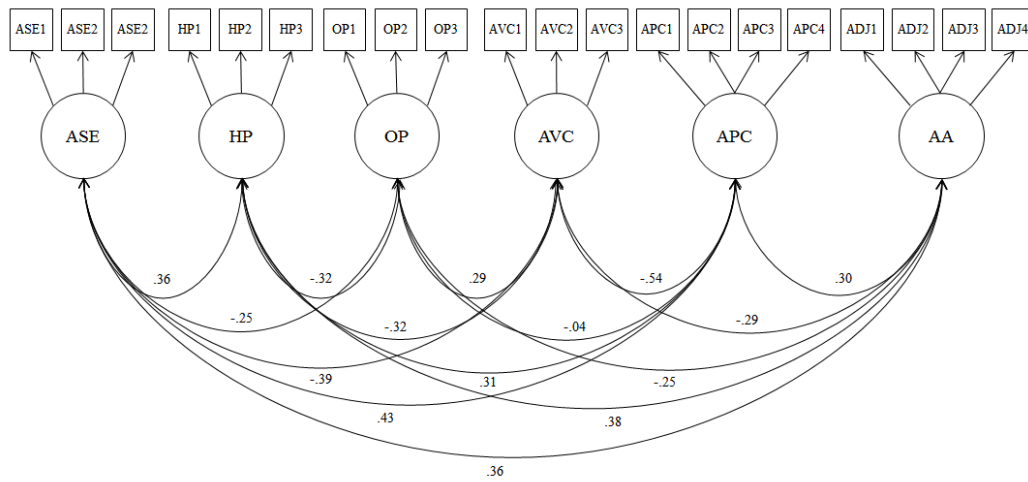
* $p < .05$; ** $p < .01$; *** $p < .001$.Note. $N = 226$. All scores are mean scores.

and academic adjustment. On the other hand, obsessive passion showed negative correlations with academic self-efficacy, approach coping, and academic adjustment. Furthermore, obsessive passion showed a positive correlation with avoidance coping. Students who had higher academic self-efficacy indicated higher harmonious passion, approach coping, goal satisfaction and academic adjustment than students who indicated lower academic self-efficacy.

Consequently, it was important to examine if the positive correlation of harmonious passion with academic adjustment was due to the other study variables. Moreover, academic self-efficacy and approach coping showed the same correlation pattern as harmonious passion (see Table 2). Thus, it was also important to examine whether harmonious passion would mediate the relationship among academic self-efficacy, coping, and adjustment.

Measurement Model

A confirmatory factor analysis was conducted to determine the suitability of the measurement model. All factor loadings are above .56 and range from .562 to .948. All standardized regression weights are above .70, except for OP1 and OP3. However, these two items were above .55 and their t values were significant at the .001 level. The squared multiple correlations (R^2) of all items ranged from .315 to .899, indicating that these items were explained by their predictors at a range from 31.5% to 89.9%.



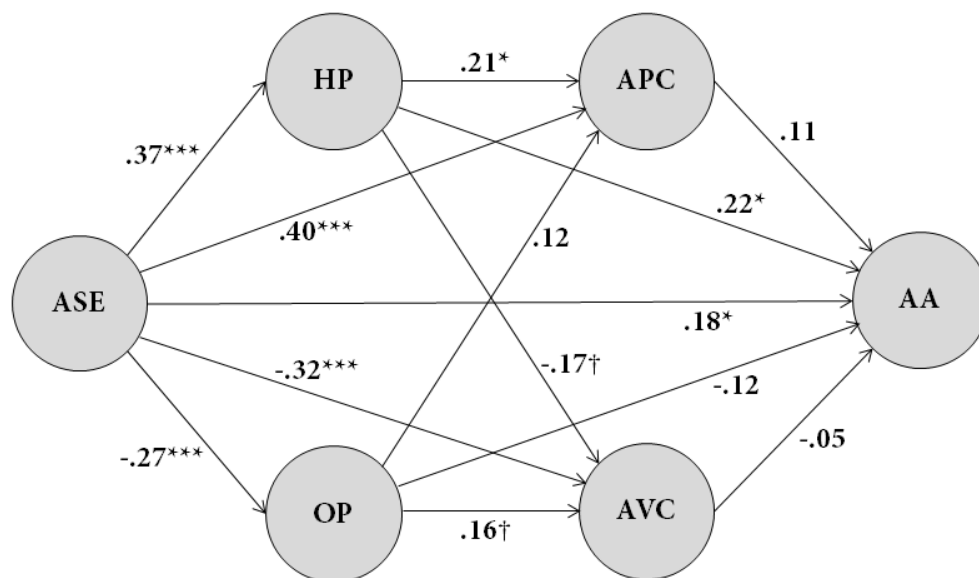
Note. *** $p < .001$, all values are standardized values. HP=Harmonious Passion; OP=Obsessive Passion; APC=Approach Coping; AVC=Avoidance Coping; ASE=Academic self-efficacy; AA=Academic Adjustment. All standardized regression weights.

Figure 2. Measurement model

A variety of indices was used in this study in order to obtain a comprehensive model fit. The indices include: the χ^2 statistic, Tucker-Lewis index (TLI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). These fit indices are typically used to represent the three categories of model fit indices: absolute, parsimonious, and incremental fit indices (Kline, 2005). The measurement model provided a good fit to the data, $\chi^2(df=155, N=226)=287.409, p < .000$; TLI=.934; CFI=.946; RMSEA=.062, 90% CI [.050, .073].

Research Model

The structural model was assessed by testing and comparing the fit of structural equation model. Based on the theoretical assumptions, the research model hypothesized that specified paths between academic passion, coping strategies, academic self-efficacy, and academic adjustment, thus representing partial mediation between independent and dependent variables (see Figure 3).



Note. † $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$. HP=Harmonious Passion; OP=Obsessive Passion; APC=Approach Coping; AVC=Avoidance Coping; ASE=Academic self-efficacy; AA=Academic Adjustment. All standardized regression weights. Results derived from full mediation model with latent variables.

Figure 3. Research Model.

The results showed a satisfactory fit of the structural model to the data.

The chi-square value was significant, $\chi^2(df=157, N=226)=334.227, p < .000$, and other fit indices were satisfactory, TLI=.913; CFI=.928; RMSEA=.071, 90% CI [.060, .081]. Table 3 shows the model fit indices. The model enabled for the estimation of the total effect of academic self-efficacy on academic adjustment through academic passion and coping strategies as well as its decomposition into direct and indirect effects. The direct effect represents the association between the independent variables with the dependent variables, whereas the specific indirect effect corresponds to a mediating variable in that relationship.

The 95% biased-corrected bootstrapped confidence intervals were estimated using the ML estimator. The 95% confidence intervals of the indirect effects were obtained with 1,000 bootstrap resamples. The utilization of bootstrap methods for indirect effect estimation is recommended for small to moderate sample size (Shrout and Bolger, 2002). It is noted that the indirect effect is significant at $p < .05$. In the present research model, evidence for full mediation requires a specific indirect effect to be significant and the direct effect to be non-significant. In contrast, partial mediation occurs when both the specific indirect effect and the direct effect are significant (Verner-Filion et al., 2014).

First, the results showed that the total effect of academic self-efficacy on academic adjustment was positive and significant ($\beta = .371, p < .01$). After taking the mediators into account, the direct effect was reduced but remained significant ($\beta = .182, p < .05$). Furthermore, a significant indirect effect provided

support for the role of partial mediator of academic passion in the relationship between academic self-efficacy and avoidance coping ($\beta = -.106, p < .01$). Academic self-efficacy showed significant direct associations with all study variables. The results showed that academic self-efficacy was positively related to harmonious passion ($\beta = .373, p < .01$) and approach coping ($\beta = .396, p < .01$) while negatively related to obsessive passion ($\beta = -.265, p < .01$) and avoidance coping ($\beta = -.317, p < .05$).

Table 3

Model Fit Indices

Model	χ^2	df	TLI	CFI	RMSEA (90% CI)
Research	334.227	157	.913	.928	.071 [.060~.081]

Note. *** $p < .001$

Secondly, in regards to harmonious passion, the results demonstrated that the total effect of harmonious passion on approach coping and academic adjustment was positively significant, respectively ($\beta = .207, p < .05$; $\beta = .257, p < .05$). The direct effect of obsessive passion on avoidance coping was positive and only marginally significant ($\beta = .160, p < .10$). The results yielded a significant contrasting association between academic self-efficacy and each academic passion type. These results supported the two types of academic passion in association with academic self-efficacy. Further, each academic passion type was differently associated with academic coping strategies.

Although the existence of academic passion types was supported leading

Table 4

Standardized Estimates of Total, Direct, and Indirect Effects With 95% Biased-Corrected Bootstrap Confidence Intervals

Paths	Total Effect		Direct Effect		Indirect Effect	
	β	95% CI	β	95% CI	β	95% CI
Academic Self-efficacy \rightarrow HP	.373**	[.194, .531]	.373**	[.201, .530]		
Academic Self-efficacy \rightarrow OP	-.265**	[-.429, -.099]	-.265**	[-.436, -.105]		
Academic Self-efficacy \rightarrow Approach Coping	.442**	[.307, .591]	.396**	[.221, .592]	.046	[-.035, .147]
Academic Self-efficacy \rightarrow Avoidance Coping	-.423**	[-.556, -.279]	-.317**	[-.472, .400]	-.106**	[-.239, -.029]
Academic Self-efficacy \rightarrow Academic Adjustment	.371**	[.217, .521]	.182*	[.090, .745]	.189**	[.016, .243]
HP \rightarrow Approach Coping	.207*	[.016, .400]	.207*	[.012, .400]		
HP \rightarrow Avoidance Coping	-.171†	[-.355, .014]	-.171†	[-.364, .015]		
HP \rightarrow Academic Adjustment	.257*	[.053, .430]	.225*	[.015, .402]	.032	[.000, .138]
OP \rightarrow Approach Coping	.118	[-.068, .306]	.118	[-.065, .307]		
OP \rightarrow Avoidance Coping	.160†	[-.012, .343]	.160†	[-.015, .347]		
OP \rightarrow Academic Adjustment	-.119	[-.307, .035]	-.124	[-.329, .050]	.004	[-.083, .055]
Approach Coping \rightarrow Academic Adjustment	.111	[-.090, .343]	.111	[-.075, .321]		
Avoidance Coping \rightarrow Academic Adjustment	-.054	[-.245, .153]	-.054	[-.327, .093]		

Note. Bias-corrected bootstrapped CIs (based on 1,000 samples) were estimated using maximum likelihood. † $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

to different coping strategies, the mediating effect of academic passion was not associated with academic adjustment in college. The total relationship among passion type, coping strategies, goal satisfaction, and academic adjustment are displayed in Table 4.

Passion types differently influenced the utilization of academic coping strategies. The results supported that the more harmonious passion students have, the more likely they utilize approach-oriented coping. Simultaneously, harmonious passion positively influenced academic adjustment, while obsessive passion did not. The results can be interpreted as the promotion of harmonious passion during high school has a significant positive effect on academic adjustment at college.

These specifications allowed the total relationship between independent and dependent variables to be partitioned into direct and indirect effects (Schellenberg et al, 2016). Specifying these relationships also allowed to assess the distinct intervening roles of academic passion and coping in the relationship between academic self-efficacy and academic adjustment (e.g., academic self-efficacy → harmonious passion → approach coping → academic adjustment) on the basis of the self-concordance model.

Discussion

This study assessed the mediating effect of academic passion in the

relationship among academic self-efficacy, coping and adjustment in college students, following the self-concordance model (Sheldon and Elliot, 2001). As hypothesized, harmonious academic passion showed positive associations with academic self-efficacy, approach coping, and academic adjustment and negative association with obsessive passion and avoidance coping. Harmonious passion showed a positive correlation with goal self-concordance, thus confirming that harmonious passion is closely related to the self-concordance model (Gaudreau et al., 2012). In contrast, the findings on obsessive passion were only partly in line with hypotheses. As expected, obsessive passion showed a significant positive association with academic self-efficacy and marginally significant negative association avoidance coping.

The findings of this study provided a first account of the interplay between academic self-efficacy and academic passion, following the self-concordance model. Differently from the previous findings that showed coping strategies as mediators of the relationship between academic passion and goal progress (Stoeber et al., 2011; Gaudreau et al., 2012; Schellenberg et al., 2016), obsessive passion and avoidance coping did not significantly support for academic adjustment during college. Specifically, the results indicated that harmonious passion for studying was associated with higher academic self-efficacy, approach coping, lower avoidance coping, and higher academic adjustment. In contrast, academic self-efficacy was negatively correlated with

obsessive passion, which was only marginally associated with avoidance coping. This result showed that having high academic self-efficacy facilitates autonomous motivation which in turn promotes harmonious passion and the use of approach coping strategies.

Although the study did not provide strong evidence for the role of obsessive passion in the relationship among academic self-efficacy, coping academic adjustment, it still supports the different roles of passion types in the self-concordance model. Despite the absence of a significant association between obsessive passion and academic adjustment, it was shown that students with obsessive passion used more avoidance coping and that each passion type leads to distinct coping dimensions. On the other hand, harmonious passion predicted better academic adjustment in college. The results did not fully support the mediating effect of passion on academic adjustment in college, even though self-efficacy showed a positive association with academic adjustment. This is because academic coping strategies used in high school do not have a direct effect on the level of academic adjustment in college. This implies that different academic coping strategies are used to be successful in the undergraduate studies.

This research may contribute to the literature by identifying that the ways academic passion leads to successful adjustment to the academic environment. This is one of the numerous studies that support for harmonious passion for the promotion of adaptive outcomes (Verner-Filion et al., 2014).

When students struggle with demanding academic requirements, having a harmonious passion would help them adopt approach coping and increase the chance of goal achievement and satisfaction. The experience of academic success during high school not only positively influences academic adjustment to the university setting, but also expands their understanding of who they are and what they aim for in their lives.

Although the hypotheses were not fully supported, academic passion was identified as a mediating variable between academic self-efficacy and academic coping strategies. Approach-oriented strategies such as effort exertion, thought control, and logical analysis may help individuals develop skills and mobilize resources that could be used when striving for desired goals and can enable students to actively confront demands that may impede goal progress. Avoidance coping may reduce students' ability to manage academic demands and may result in drawing inner resources away from the demands of the situation, which may lead to changes in goal attainment and maladjustment to the environment.

In addition, previous research found goal attainment was associated with harmonious passion and either positively related or unrelated to obsessive passion (Gaudreau, 2012); however, in this research, harmonious passion is positively related to self-efficacy and approach coping during the process of academic goal achievement. Simultaneously, these variables were negatively

related to obsessive passion. There may be two reasons for these inconsistencies. First, previous research relied on cross-sectional designs, and this study utilized concurrent-retrospective design to extend the timeframe from high school to college. The results suggest that harmonious passion is directly and strongly related to academic goal satisfaction. Second, although harmonious passion is generally associated with more adaptive outcomes, students with obsessive passion also do put much effort and adjust to the highly competitive and demanding environments. Amiot, Vallerand, and Blanchard (2006) reported that hockey players with obsessive passion showed higher levels of psychological adjustment during the seasons. The relations between passion and coping are not only important to better understand changes in goal attainment and successful academic life adjustment, but they also further our understanding of how passionate students adapt and self-regulate during the times of academic stress (Belanger, Lafreniere, Vallerand, and Kruglanski, 2013).

Limitations and Future Suggestions

The present study has a number of limitations. First, the sample was predominantly female and freshmen. It is unclear to what degree the present findings are representative of male college students and students in higher grades. Future studies should aim at a more balanced gender and grade representation and include students from other gender-balanced undergraduate programs (e.g.

law or business management). Second, the present study was concurrent-retrospective. The findings from the SEM analyses of passion predicting academic coping, goal satisfaction, and adjustment cannot be fully interpreted in a causal sense. The research design only specified that academic passion, self-efficacy, and coping during high school were preceded by academic adjustment at college. Future studies should, therefore, employ longitudinal designs to establish the temporal and causal pathways between the variables (Vallerand et al., 2010; Gaudreau, 2012; Schellenberg, 2016).

The overall factor loadings of obsessive passion measure were only marginally acceptable, which may have been due to the modification of the items. Further validations on the obsessive passion items are necessary. Despite these limitations, the present findings may contribute to the understanding of how academic passion is related to academic self-efficacy, coping, and academic adjustment during the course of academic life in high school and college. The findings support that harmonious passion is associated with higher levels of approach coping and lower levels of avoidance coping. Moreover, they show that harmonious is positively associated with academic adjustment. Thus the present findings may be a stepping stone for future studies on how harmonious and obsessive passion affect self-regulatory coping and academic adjustment in school and college students.

Future research should investigate the processes that could explain the

passion and coping relationship in the self-concordance model in a longitudinal model. For example, motivation is linked with both passion and coping, and research is needed to determine whether relationships between types of academic passion and coping remain after controlling for motivational constructs such as self-efficacy. In relation to data analysis, the difference between grade and gender can be examined to see the long-term effect of academic passion in the development of students' career.

Further research is needed to examine the role of passion when confronted by academic challenges through the implementation of both behavioral and emotional assessments for the application in the broader life adjustment issues.

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Appendix

자기효능감과 대처, 그리고 적응의 관계에서 학업열정의 매개효과

안녕하세요? 소중한 시간을 내어주셔서 진심으로 감사 드립니다.

본 설문은 학업 열정이 자기효능감과 대처 그리고 적응의 관계에서의 매개효과에 대해 알아보기 위해 제작되었습니다.

본 설문은 현재 여러분이 수강하는 수업과는 무관합니다. 현재 대학에 재학중인 학생 여러분의 응답은 이 연구의 결과에 매우 중요한 역할을 합니다. 정답이 있는 것이 아니니 솔직하고 성실한 응답을 꼭 부탁드립니다.

설문지에 응답하는 시간은 약 10분에서 15분 정도가 소요됩니다. 응답해주시는 모든 내용은 통계법 제33조 2항에 의거하여 익명으로 처리되며, 오직 연구를 위한 자료로만 사용할 것을 약속 드립니다.

설문조사와 관련한 문의사항이 있으시면 아래 이메일로 연락 주시기 바랍니다.

2017년 5월

서울대학교 대학원 교육심리전공 석사과정 김윤지

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1. 기본 인적 사항

1	성별	<input type="checkbox"/> 남 <input type="checkbox"/> 여
2	나이	만 세
3	재학중인 대학교	
4	대학 입학 년도	
5	학년	<input type="checkbox"/> 1학년 <input type="checkbox"/> 2학년 <input type="checkbox"/> 3학년 <input type="checkbox"/> 4학년

2. (고등학교 재학 당시) 학교 공부에 대한 열정

고등학교 재학 기간 동안 학교 공부를 떠올리며 아래의 문항에 얼마나 동의하는지 표시해 주세요.

문항		1: 전혀 동의하지 않는다 7: 매우 동의한다						
1	공부는 내 삶의 다른 활동들과 조화를 이루었다.	1	2	3	4	5	6	7
2	공부를 해야만 한다는 강박적인 기분에 사로잡혀 있었다.	1	2	3	4	5	6	7
3	공부를 통해 새롭게 알게 되는 것들로 공부가 더욱 소중하다고 느꼈다.	1	2	3	4	5	6	7
4	공부를 해야 불안감을 해소할 수 있었다.	1	2	3	4	5	6	7
5	공부를 통해 내가 좋아하는 나의 장점을 알 수 있었다.	1	2	3	4	5	6	7
6	공부 대신 다른 일을 하면 죄책감이 들었다.	1	2	3	4	5	6	7
7	공부를 통해 다양한 경험을 할 수 있었다.	1	2	3	4	5	6	7
8	다른 사람의 인정과 보상이 주어져야 공부를 할 이유가 생겼다.	1	2	3	4	5	6	7
9	공부는 내 삶에 잘 융화되어 있었다.	1	2	3	4	5	6	7
10	공부를 해야 나의 가치에 대해 충분히 보상받는다고 느꼈다.	1	2	3	4	5	6	7
11	공부는 나를 표현하는 다른 활동들과 조화를 이루었다.	1	2	3	4	5	6	7

12	공부만이 나의 능력과 정체성을 입증할 도구라고 느꼈다.	1	2	3	4	5	6	7
13	공부에 많은 시간을 썼다.	1	2	3	4	5	6	7
14	공부는 나에게 중요했다.	1	2	3	4	5	6	7
15	공부에 대해 열정을 가지고 있었다.	1	2	3	4	5	6	7
16	공부는 나를 구성하는 한 부분이었다.	1	2	3	4	5	6	7

3. (고등학교 재학 당시)대학 진학 목표 및 동기

고등학교 재학 당시 대학 진학을 통해 이루고자 했던 목표에 대해 기술한 후, 왜 그 목표를 추구하였는지 아래의 문항에 응답하여 주십시오.

당신이 대학 진학을 통해 이루고자 했던 목표가 무엇이었습니까?

당신은 왜 이 목표를 추구하였습니까? 아래의 문항에 응답하여 주십시오.

문항		1: 전혀 동의하지 않는다 7: 매우 동의한다						
1	이 목표를 추구하는 것이 즐겁고 기뻐서	1	2	3	4	5	6	7
2	이 목표를 추구하는 것이 가치 있고 나의 발전에 도움이 되어서	1	2	3	4	5	6	7
3	나에게 이 목표를 추구할 의무가 있고, 이것을 추구하지 않으면 불안하거나 죄책감을 느껴서	1	2	3	4	5	6	7
4	다른 사람 때문에 이 목표를 추구하게 됐고, 돈과 사회적 성공과 같은 외적인 보상을 원해서	1	2	3	4	5	6	7

4. (고등학교 재학 당시)학업적 자기효능감

고등학교 재학 당시를 떠올리며 자신이 공부에 갖고 있는 인식이나 행동과 가장 가까운 항목에 표시하여 주시기 바랍니다.

문항	1: 전혀 그렇지 않았다
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		5: 매우 그랬다				
1	복잡하고 어려운 문제에 도전하는 것이 재미있었다.	1	2	3	4	5
2	가능하다면 어려운 과목은 피해가고 싶었다.	1	2	3	4	5
3	깊이 생각해야 하는 문제보다는 쉽게 풀 수 있는 문제를 더 좋아했다.	1	2	3	4	5
4	시간이 많이 들더라도 깊이 생각하는 과목이 더 재미있었다.	1	2	3	4	5
5	쉬운 문제를 여러 개 푸는 것보다 어려운 문제를 하나 푸는 것을 더 좋아했다.	1	2	3	4	5
6	쉬운 과목보다는 어려운 과목을 더 좋아했다.	1	2	3	4	5
7	수업시간에 새로 배운 것들을 이미 알고 있는 것과 쉽게 연결 시킬 수 있었다.	1	2	3	4	5
8	보통 공부를 시작하기 전에 계획을 세우고, 거기에 맞추어 공부하였다.	1	2	3	4	5
9	어떻게 공부하는 것이 효과적인 방법인지 잘 알고 있었다.	1	2	3	4	5
10	정해진 시간 안에 주어진 과제를 잘 마칠 수 있었다.	1	2	3	4	5
11	수업 시간에 배운 내용 중 내가 무엇을 알고, 무엇을 모르는지 정확히 판단할 수 있었다.	1	2	3	4	5
12	수업시간에 배운 내용에서 중요한 것이 무엇인지를 잘 파악할 수 있었다.	1	2	3	4	5
13	시험을 치르기 전에는 시험을 망칠지도 모른다는 생각이 들었다.	1	2	3	4	5
14	비록 실패하더라도 다른 친구들이 풀지 못한 문제에 도전하는 것이 즐거웠다.	1	2	3	4	5
15	만약 여러 과목 중 몇 과목만을 선택할 수 있다면, 쉬운 과목만을 선택했을 것이다.	1	2	3	4	5
16	학교 공부는 무조건 쉬울수록 좋았다.	1	2	3	4	5
17	쉬운 문제보다는 조금 틀리더라도 어려운 문제를 푸는 것이 좋았다.	1	2	3	4	5
18	수업시간 중에 중요한 내용을 잘 기록할 수 있었다.	1	2	3	4	5
19	싫어하는 수업시간에도 주의집중을 잘할 수 있었다.	1	2	3	4	5
20	복잡하고 어려운 내용을 기억하기 쉽게 바꿀 수 있었다.	1	2	3	4	5

21	수업시간에 배운 내용을 잘 기억할 수 있었다.	1	2	3	4	5
22	선생님과 친구들 앞에서 발표하는 것은 내게 너무 큰 스트레스를 주었다.	1	2	3	4	5
23	수업시간 중에 선생님이 문제를 풀라고 시킬까 봐 불안했다.	1	2	3	4	5
24	토론을 할 때, 혹시 창피를 당할까 봐 내 의견을 제대로 발표하지 못했다.	1	2	3	4	5
25	수업시간에 발표를 할 때, 실수를 할 것 같아 불안했다.	1	2	3	4	5
26	선생님이 모두에게 질문을 할 때, 답을 알아도 대답하지 못했다.	1	2	3	4	5
27	시험이 다가오면 불안해서 잠을 이룰 수가 없었다.	1	2	3	4	5
28	시험 때만 되면 우울했다.	1	2	3	4	5

5. (고등학교 재학 당시)학업적 대처 전략

고등학교 재학 당시 공부와 관련하여 문제를 겪었을 때 얼마나 자주 아래의 대처 전략들을 사용하였는지 응답하여 주십시오.

문항		1: 전혀 그렇지 않았다 5: 항상 그랬다				
1	정서적 지지를 얻기 위해 학교 친구와 이야기를 나누었다.	1	2	3	4	5
2	문제 상황을 방치하였다.	1	2	3	4	5
3	문제에 대한 다른 사람들의 관점과 의견을 구했다.	1	2	3	4	5
4	문제 해결을 위해 학교 밖 친구나 가족에게 조언을 구했다.	1	2	3	4	5
5	내가 잘못했던 부분을 찾으려고 노력하였다.	1	2	3	4	5
6	문제에 대한 통제력을 갖기 위해 노력하였다.	1	2	3	4	5
7	문제 해결을 위해 과거 경험으로부터 배우려고 하였다.	1	2	3	4	5
8	내가 문제에 대해 더 잘 대처할 능력이 있기를 바랐다.	1	2	3	4	5
9	나 자신에게 그렇게 중요한 문제가 아니라고 말했다.	1	2	3	4	5
10	문제를 무시하였다.	1	2	3	4	5
11	타인에게 나의 기분을 표현하였다.	1	2	3	4	5
12	문제에 대해 긍정적으로 생각하였다.	1	2	3	4	5
13	문제 해결을 위한 다양한 방안을 생각하였다.	1	2	3	4	5
14	문제 해결을 위한 추가 정보를 찾고 파악하였다.	1	2	3	4	5

15	경험으로부터 배우기 위해 노력하였다.	1	2	3	4	5
16	다른 사람들과 거리를 두었다.	1	2	3	4	5
17	문제를 극복하기 위해 실력을 발전시키려고 더욱 노력했다.	1	2	3	4	5
18	실수로부터 배우기 위해 노력했다.	1	2	3	4	5
19	문제를 방해하는 활동을 하였다 (스마트폰, 게임, TV 보기 등).	1	2	3	4	5
20	정서적 지지를 얻기 위해 학교 밖 친구와 가족과 이야기를 하였다.	1	2	3	4	5
21	문제가 있다는 것을 부인하였다.	1	2	3	4	5
22	감정을 해소하기 위해 울었다.	1	2	3	4	5
23	행동으로 옮기기 전에 문제에 대해 깊이 생각하였다.	1	2	3	4	5
24	문제에 대해 아무것도 하지 않았다.	1	2	3	4	5
25	문제 해결을 위해 끈기 있게 노력하였다.	1	2	3	4	5
26	문제 해결을 위해 명확한 목표를 세웠다.	1	2	3	4	5
27	문제가 저절로 해결되기를 바랐다.	1	2	3	4	5
28	문제에 대한 생각을 회피했다.	1	2	3	4	5
29	문제 해결을 위한 명확한 행동 계획을 짰다.	1	2	3	4	5
30	문제 해결을 위해 열심히 노력하였다.	1	2	3	4	5
31	문제에 대해 질문을 하였다.	1	2	3	4	5
32	정서적 지지를 얻기 위해 선생님과 이야기를 나누었다.	1	2	3	4	5
33	문제 해결에 대해 동료 학생에게 조언을 구했다.	1	2	3	4	5
34	문제를 해결하기 위해 할 수 있는 게 없다고 느꼈다.	1	2	3	4	5

6. (고등학교 재학 당시)학업 문제 해결 만족도

고등학교 재학 당시 사용한 학업적 대처 전략을 통해 자신의 학업 문제 해결에 어떻게 생각하는지 응답해 주십시오.

문항		1: 전혀 그렇지 않다 5: 매우 그렇다				
1	당신이 사용한 학업적 대처 전략을 통해 자신의 학업 문제 해결에 얼마나 만족합니까?	1	2	3	4	5

7. (대학 진학 후 현재)대학 생활 적응

각 문항을 읽고 최근 자신의 생각과 상태를 얼마나 잘 나타내는지 고려하여 응답해 주십시오.

문항		1: 전혀 그렇지 않다 9: 매우 그렇다								
1	공부를 밀리지 않고 잘 하고 있다.	1	2	3	4	5	6	7	8	9
2	사실 해야 되는 공부를 해낼 만큼 머리가 좋지 못하다.	1	2	3	4	5	6	7	8	9
3	왜 대학에 다니고 있는지, 그리고 대학에서 무엇을 얻고자 하는지 알고 있다.	1	2	3	4	5	6	7	8	9
4	대학공부가 어렵게 느껴진다.	1	2	3	4	5	6	7	8	9
5	수강과목의 보고서를 작성하는 것이 즐겁다.	1	2	3	4	5	6	7	8	9
6	시험기간 중에 잘 지내지 못한다.	1	2	3	4	5	6	7	8	9
7	나의 학업 성취 수준에 만족한다.	1	2	3	4	5	6	7	8	9
8	대학에서 들을 강의가 많고 다양하다는 데에 만족한다.	1	2	3	4	5	6	7	8	9
9	대학에서 들을 수 있는 강의의 질이나 양에 만족한다.	1	2	3	4	5	6	7	8	9
10	전공 공부를 그렇게 열심히 하지 못하고 있다.	1	2	3	4	5	6	7	8	9
11	나의 학업적 목적과 목표는 뚜렷하게 정해져 있다.	1	2	3	4	5	6	7	8	9
12	학사학위를 따는 것은 내게 매우 중요하다.	1	2	3	4	5	6	7	8	9
13	공부 시간을 효율적으로 사용하지 못하고 있다.	1	2	3	4	5	6	7	8	9
14	공부하려는 의욕이 별로 생기지 않는다.	1	2	3	4	5	6	7	8	9
15	최근 대학 교육의 가치에 대해 회의를 느끼고 있다.	1	2	3	4	5	6	7	8	9
16	과제물을 시작하는 데 힘이 든다.	1	2	3	4	5	6	7	8	9
17	공부할 때 주의집중이 안 되어 어려움을 겪고 있다.	1	2	3	4	5	6	7	8	9
18	노력에 비해서 성적이 만족스럽지 못하다.	1	2	3	4	5	6	7	8	9
19	규칙적으로 강의에 출석한다.	1	2	3	4	5	6	7	8	9
20	이번 학기에 수강하는 과목들에 만족한다.	1	2	3	4	5	6	7	8	9
21	대학에서 공부하는 것이 즐겁다.	1	2	3	4	5	6	7	8	9
22	지금 강의를 맡고 있는 교수에 대해 매우 만족한다.	1	2	3	4	5	6	7	8	9
23	내가 흥미를 느끼는 것들은 대부분 나의 전공과 아무런 관련이 없다.	1	2	3	4	5	6	7	8	9
24	대학에서의 내 학업 성과에 대해 만족하고 있다.	1	2	3	4	5	6	7	8	9

국문초록

자기효능감과 대처, 그리고 적응의 관계에서 학업열정의 매개효과

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본 연구는 열정의 두 가지 종류(조화열정, 강박열정)를 확인하여 열정의 종류에 따라 학업적 대처와 적응에 다르게 영향을 미친다는 것을 확인하고자 하였다. 구체적으로 이 연구에서는 자기일치모형에 기초하여 학생들의 학업적 자기효능감, 대처 그리고 적응의 관계에서 학업 열정의 매개효과를 확인하였으며 연구 모형에서는 고등학교에서 대학교로 학업적 전환이 이루어지는 시기에 학업 적응에서 중요한 동기적 그리고 자기 조절적 메커니즘을 알아보하고자 하였다. 본 연구에는 한국 수도권에 위치한 5개 대학교에서 총 256명의 대학생들이 참여하였다. 확인적 요인분석을 실시하여 측정모델 분석과 연구모델의 매개효과를 분석하였다.

본 연구의 결과는 연구 모형에 대한 유의한 모델값을 도출하였으며 특히 학업적 자기효능감이 학업적 적응에 미치는 총 효과는 정적으로 유의하였다. 학업적 자기효능감과 회피 대처 전략간의 관계에서 학업 열정의 간접

효과는 유의한 것으로 밝혀졌다. 또한 학업적 자기효능감은 모든 연구 변인들과 유의한 상관을 보여주었다. 본 연구의 결과에서 자기효능감은 조화열정과 접근대처전략과 정적인 관계인 반면 강박열정과 회피대처전략과는 부적인 관계임이 나타났다. 이로써 자기효능감은 조화열정과 강박열정이라는 열정의 종류에 따라 대조적인 관계를 갖는다는 것을 보여주었다.

자기효능감이 높은 학생들은 조화열정을 통해 학업상황에서 접근대처전략을 사용하여 장기적으로 학업적응에 긍정적인 영향을 줄 수 있으나 반면 자기효능감이 낮은 학생은 강박열정을 발현시키기 때문에 접근대처전략 사용과 학업적응과는 관련이 없었다. 이 연구는 고등학교 시절에 학업적 자기효능감과 학업에 대한 조화열정을 발달시키는 것이 대학교 진학 후의 학업적응에 직접적인 영향을 끼친다는 것을 지지한다. 본 연구는 학업 열정이 고등학교에서 대학교로 전환하는 시기에 자기효능감, 대처 전략 그리고 학업적응과 어떤 관계가 있는지 알아봄으로써 학업 상황에서 열정의 구체적인 역할에 대해 알아보았다. 학생들이 자기효능감은 물론 조화열정을 발달시킬 수 있도록 도와줌으로써 학업상황에서 접근대처전략을 사용하도록 도울 수 있으며 이는 장기적으로 학업 목표 성취에 긍정적인 영향을 줄 것이다. 고등학교에서의 학업적 성공 경험은 대학교 진학 후의 학업 적응뿐 아니라 자신에 대한 이해와 목표에 대해 구체적으로 발전시킬 수 있는 기회가 될 것이다.

주요어: 학업열정, 조화열정, 강박열정, 자기효능감, 대처전략, 대학학업적응
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